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# Seattle, Washington
# October 6-November 2, 1977. Part 2

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C. B. Wilson and J. W. Schweiss

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16. ABSTRACT

To obtain additional information on the magnitude and spatial extent of the carbon monoxide problem in downtown Seattle, a 20-day study was conducted involving 36 outdoor sites, five indoor sites, and two pedestrian routes. Bag samples were analyzed by an electrochemical oxidation method. Results for one eight-hour period daily (two consecutive four-hour samples) were compared for the outdoor study sites and for five routinely operated permanent monitors in the central business district.

The permanent monitoring network adequately represented the highest eight-hour average CO concentration measured during the study period (about 16 ppm), but not the highest frequency of exceedences of the 9.0 ppm standard (80% of the days at one study site). The carbon monoxide problem occurred throughout the downtown commercial district with exceedences noted at least once at 22 of the study sites. Indoor CO concentrations were usually lower than at adjacent outdoor sites. Changes in average indoor and outdoor levels of CO frequently coincided.

Detailed descriptions of methods and discussion of findings are included as well as tables of data obtained during the study.

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## October 6 - November 2, 1977

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# Part 2. CARBON MONOXIDE STUDY - SEATTLE, WASHINGTON

OCTOBER 6, - NOVEMBER 2,1977

PREPARED BY

C. B. Wilson and J. W. Schweiss

SURVEILLANCE AND ANALYSIS DIVISION

FOR

AIR PROGRAMS BRANCH

AIR AND HAZARDOUS MATERIALS DIVISION

U.S. ENVIRONMENTAL PROTECTION AGENCY, REGION 10
1200 SIXTH AVENUE
SEATTLE, WASHINGTON 98101

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# PREFACE

Under the Clean Air Act of 1970 the U.S. Environmental Protection Agency has established standards for carbon monoxide in air external to buildings to which the public has access. In a number of cities, including Seattle, these standards have not yet been attained. Plans to achieve the standards are now required under the Clean Air Act Amendments of 1977 (PL 95-95). It is hoped that the material presented in this report will assist in attainment of the standards.

# ACKNOWLEDGMENTS

We gratefully acknowledge the assistance of members of the Washington State Department of Ecology (DOE), the City of Seattle, and the firms and institutions which permitted installation of equipment on their premises. Without their cooperation, portions of this study could not have been conducted. Our sincere thanks go to the National Park Service, Seattle First National Bank (Seaboard Branch), the Central Hotel, Singer's, and the Bracken Pharmacy. Finally, we express gratitude to many members of the EPA staff for guidance, encouragement, and assistance.

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## Abbreviations and Symbols

AM - The four-hour interval from 10:00 a.m. to 2:00 p.m.

PM - The four-hour interval from 2:00 p.m. to 6:00 p.m.

AVC - The eight-hour average CO concentration for the 10:00 a.m. to 6:00 p.m. sample collected at an EPA special study site

AVSxxx- The eight-hour average CO concentration for the 10:00 a.m. to 6:00 p.m. period from continuous non-dispersive infra-red (NDIR) measurements at a permanent monitor where "xxx" is an abbreviation for the particular monitor

s/o - "South of" as in Second Avenue s/o University Street

e/o - "East of" as in James Street e/o Fourth Avenue

R.AVC.AVSx - Ratio of eight-hour averages at the same time for a study site and for a permanent monitor (where "x" is the first letter abbreviation of the abbreviations listed below)

JAM - Permanent monitor on James Street (north side) e/o Fourth Avenue (the Municipal Building)

UNI - Permanent monitor on Second Avenue (west side) s/o University Street (near McPhearson's Leather Co.)

PIK - Permanent monitor on Fourth Avenue (east side) s/o Pike Street (Fourth and Pike Building)

SIN - Permanent monitor on Pike Street (south side) e/o Fourth Avenue (near Singer's)

FIR - Permanent monitor on Second Avenue (west side) s/o Main Street (Fire Station No. 10 near Pioneer Square)

Exceedence of Standard* - An eight-hour average CO concentration exceeding 9.0 ppm

Violation of Standard - The second eight-hour, non-overlapping, running average CO concentration in a year to exceed 9.0 ppm

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[*] This report discusses only the standard for the eight-hour average and does not discuss the standard for one-hour average CO concentrations.

# INTRODUCTION

Carbon monoxide (CO) is a colorless, odorless, tasteless gas that, in most urban areas, results primarily from exhaust emissions of motor vehicles. National Ambient Air Quality Standards for CO concentrations have been established by EPA for eight-hour and one-hour averages as 9 ppm and 35 ppm, respectively.* Routine continuous monitoring to determine compliance with these standards has been conducted in Seattle since mid-1971.

At the five carbon monoxide monitoring sites in downtown Seattle, which are operated by the Washington State Department of Ecology, the National Ambient Air Quality Standards (NAAQS) are frequently violated. For example, during 1976, the eight-hour standard (9.0 ppm) was exceeded at the James Street site on about 24% of the days; the second-highest eight-hour average (15.0 ppm) was nearly 70% more than the standard. The eight-hour standard was exceeded at the Second and University site (1209 Second Avenue or "UNI") on about 10% of the days with 16.4 ppm as the second-highest value. In the University of Washington district, even higher concentrations than at the downtown sites were observed. However, at the several other monitors in Seattle, maximum concentrations were usually lower than in the downtown central business district.

The purpose of this study was to obtain more information on the severity of the carbon monoxide problem and its geographical extent to (1) assist in selection of candidate sites for routine monitoring and (2) aid evaluation of the extent to which the higher CO levels at the existing monitors represent conditions elsewhere in the area. To address these needs, EPA engaged a contractor* to conduct a four-week study to collect data at 34 outdoor sites simultaneously in the central business district and near-by (36 sites altogether) during October-November 1977. Some data were also obtained at indoor locations and along pedestrian routes. Bag samples were obtained twice daily; except for the pedestrian routes, each represented a four-hour average. These were analyzed by an electrochemical method (Ecolyzer) for carbon monoxide and eight-hour averages computed where appropriate. (Missing data were not estimated).

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* not to be exceeded more than once per year

While several methods exist by which to compare data from the study sites and the permanent monitors, two basic approaches are presented in this report to examine representativeness. The "day-by-day" approach will be designated Type I and the "entire study period" approach referred to as Type II.

The first approach compares data on a day-by-day basis (Type I approach). Because the study sites were sampled during just one eight-hour period (10:00 a.m. to 6:00 p.m.) each day, the same period for the permanent monitors was chosen for comparing the relative concentrations throughout the study area "simultaneously". For the permanent monitors, data were also available for other eight-hour periods during the day. This enabled day-by-day comparisons of the daily maximum eight-hour averages at the monitors with the study period eight-hour averages (10:00 a.m. to 6:00 p.m.)

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* Alsid, Snowden, and Associates, Bellevue, Washington

in order to examine daily relationships of concentrations from one period to another.

The second approach (Type II) compares data from the entire twenty-day study interval, regardless of whether the compared data are for occurrences on the same day or not. This type of analysis is useful in examining patterns and frequencies of concentrations throughout the study area. Data for the study period (10:00 a.m. to 6:00 p.m.) from study sites and permanent monitors were compared using this approach.

This report (Part 2) documents the carbon monoxide data obtained during the Seattle study and discusses the results in detail. A summary report (Part 1) also presents the results and conclusions of the investigation, discussing the results only briefly. All of the four-hour data for ambient sites operated by EPA are also available on punched IBM cards from the regional office in Seattle. The state monitoring data may be obtained from the Washington State Department of Ecology (Olympia, Washington). Meteorological data were available only for sites away from the downtown area (Portage Bay near the University of Washington and the Seattle-Tacoma Airport) and were not included in this analysis. The most recently available traffic data were obtained from the City of Seattle. Traffic counters were not operated at the temporary monitoring sites, except in a few instances where the EPA site happened to coincide with a traffic count location operated for a few days by the city as part of their routine program.

# SUMMARY

In 1977, a 20-day study of carbon monoxide levels involving thirty-six outdoor sites, five indoor sites, and two pedestrian walking routes was conducted in Seattle during October - November. This is part of the season when high carbon monoxide levels are expected to occur frequently. The purpose of this study was to obtain additional data regarding the magnitude of the area's carbon monoxide problem and the representativeness of the permanent monitors in the central business district, and to assist in selection of candidate sites for routine monitoring. (Representativeness, as used in this sense, is the extent to which data from the permanent monitors represents higher CO levels elsewhere in the central business district). On each week-day, two four-hour bag samples were collected from about 10:00 a.m. to 2:00 p.m. (AM sample) and about 2:00 p.m. to 6:00 p.m. (PM sample) at thirty-three of the outdoor sites and two or three of the indoor sites simultaneously. Technicians collected bag samples of air on two pedestrian walking routes over two to four hours during the AM and PM periods.

Data are summarized in bar charts of the measurement distribution for each site and each day of the study period, in histogram-maps showing the spatial distribution of carbon monoxide, and in tables. Results from the study sites were compared in several ways with data from the permanent monitors. Comparisons were also made between study sites along the same corridor, between indoor sites and adjacent outdoor sites, and between the two pedestrian routes. Eight-hour averages were compared with the 9.0 ppm standard.

The study results indicate that the carbon monoxide problem occurs throughout the downtown commercial district, but concentrations are relatively low at some locations (e.g., where ventilation is good and/or the site is not on a heavily-travelled street.) Comparisons of the eight-hour averages at the study sites and the permanent monitors found that the highest 10:00 a.m. to 6:00 p.m. average at the study sites (16.1 ppm) was about the same as the highest at any of the permanent monitors (15.8 ppm). However, these did not occur on the same day. Although one study site was nearly collocated with the maximum permanent monitor, its eight-hour average on that same day was about 3 ppm lower than at the permanent monitor. This was atypical of the relationship of the data from these nearly collocated sites, since their eight-hour averages were usually within 1 ppm.

Of the permanent monitors, the one on Fourth Avenue south of Pike (PIK) had the highest eight-hour average during the study interval and appeared to be most nearly representative of the highest concentrations in the study area. Although the study site on First Avenue experienced a slightly higher eight-hour average (on another day), it did not experience as frequent violations of the standard. However, even though the permanent monitor on Fourth Avenue appears generally representative of the higher concentrations, more frequent exceedences of the standard than at any of the permanent monitors may occur at Sixth Avenue south of Union (Site 19) as well as at a few other sites. CO values exceeded the 9.0 ppm standard at some study sites on days when the highest eight-hour average of the permanent monitors measured on that day was (1) below the standard and (2) less than two-thirds of the highest average observed at the maximum study site on that day.

Increases in carbon monoxide at outdoor sites frequently coincided with increases at indoor sites. Pedestrians and some of the indoor population may be exposed to concentrations above the standard at times when outdoor CO concentrations are high.

# CONCLUSIONS AND RECOMMENDATIONS

The major conclusions of a 20-day study conducted in Seattle during about 10:00 a.m. to 6:00 p.m. on week-days of October - November 1977 are:

1. The severity of the carbon monoxide problem in the central business district as measured by the highest eight-hour average concentrations (compared without regard to the day in which they occurred) was adequately represented by the permanent monitor at Fourth Avenue south of Pike Street. However, the permanent monitoring network did not represent the highest frequency of exceedences of the eight-hour standard during the twenty-day period.

    - During the study period, the highest 10:00 a.m. to 6:00 p.m. average of all the study sites was 16.1 ppm and it occurred on October 28 at site 1 on First Avenue south of Pike Street. This was essentially the same as the highest of all the permanent monitors during the study period (15.8 ppm on October 14th at PIK, the permanent monitor on Fourth Avenue south of Pike Street).

    - About 17% of the study sites (6 out of 36) experienced at least one eight-hour average concentration within 2.0 ppm of the highest 10:00 a.m. to 6:00 p.m. average of all the permanent monitors. (Note that these are comparisons of the maximums during the 20-day study period and did not necessarily occur on the same day.)

- The highest eight-hour average at each of these six study sites (sites 1, 5, 7, 9, 10, and 19) exceeded the maximum at the Second and University monitor, 12.8 ppm, which was the next highest reading from a permanent monitor. (Again, this comparison is of maximums during the 20-day study period, regardless of the day on which they occurred.)

2. The permanent monitoring network was not representative of the highest frequency of exceedences of the 9.0 ppm standard within the study area for this twenty-day period.

   - The eight-hour standard was exceeded at one or more study sites on 80% of the study days (16 out of 20). Exceedences at one or more of the permanent monitors occurred on 45% (9 out of 20) of the sampled days.

   - The most frequent exceedences of the 9.0 ppm standard were observed at site 19 on Sixth Avenue south of Union Street (80% of the days). Considering all study sites, this site had the highest eight-hour average of the day more frequently than any other site (on 8 of the 20 days of the study). The highest eight-hour average at site 19 over the twenty-day study interval (13.9 ppm on October 28) was exceeded at only four study sites. These sites (1, 7, 9, and 10) also experienced their highest values of the twenty-day interval on October 28 (16.1, 14.5, 14.0, and 15.0 ppm, respectively).

- The frequency of exceedences at the permanent monitors ranged from 0% at the Fire Station on Second Avenue south of Main Street (FIR) to 40% of the sampled days at the monitoring site on Fourth Avenue south of Pike (PIK).

- On all but two days, the highest eight-hour concentration of those measured at the permanent monitors for 10:00 a.m. to 6:00 p.m. was exceeded by that at one or more study sites.

- During the survey, the second-highest eight-hour average for 10:00 a.m. to 6:00 p.m. for any permanent monitor (13.6 ppm on 10/28/77 at PIK on Fourth Avenue south of Pike Street) was exceeded by one study site's second-highest average (15.0 ppm on 10/21/77 at site 10 on Fourth Avenue south of Union).

3. The CO problem occurred throughout the downtown commercial district but concentrations were lower at some locations.

   - For 47% of the study sites (17 of 36), the 10:00 a.m. to 6:00 p.m. eight-hour average exceeded the 9.0 ppm standard more than once.

   - For 14% of the study sites (5 out of 36), the 10:00 a.m. to 6:00 p.m. eight-hour average equalled or exceeded the 9.0 ppm standard exactly once.

- For 39% of the study sites (14 out of 36) including some locations in parks and other areas of expected low concentrations, eight-hour averages for 10:00 a.m. to 6:00 p.m. did not exceed the 9.0 ppm standard during the 20-day study.

- The highest eight-hour average of the day did not always occur at the same sites. On 90% of the days (18 of 20), the highest average was measured at a study site rather than at a permanent monitor. Sites 1, 5, 7, 10, 19, 22, 29, and 36 were study sites which were "maximum" on at least one day considering permanent monitors as well as study sites. Site 19 was highest on 35% of the days and tied for highest with PIK on 5% of the days; each of the sites 1, 7, 10, and 22 was highest on 10% of the days; and each of the sites 5, 29, and 36 was highest on 5% of the days. The permanent monitor PIK, was highest on 5% of the days.

- Relatively low average concentrations were observed at sites 18, 21, and 35 which are closer to the freeway than the other study sites. For these sites, the averages of all eight-hour values were 4.2, 3.8, and 3.6 ppm respectively.

- On four of the days when no violations were observed at the permanent monitors the maximum study site's eight-hour average exceeded 9.0 ppm and was more than 1.5 times greater than at the maximum permanent monitor.

- When concentrations exceeded the standard at the permanent monitors they were exceeded at a number of other locations.

4. Changes in CO concentrations at outdoor sites frequently coincided with changes in CO concentrations at indoor sites, but the relationship between indoor and outdoor values was not constant.

   - Concentrations were usually lower indoors than at the selected adjacent outdoor site.

   - Indoors, the eight-hour average concentration of carbon monoxide exceeded 9.0 ppm at one of the five sites (SIN 1) on Fourth Avenue south of Union Street.

5. Pedestrians were probably exposed to average CO concentrations exceeding 9.0 ppm over four or more hours at times.

   - For sampling periods between two to four hours, concentrations ranged from 1.1 ppm to 11.9 ppm.

   - For sequential or nearly sequential sampling periods totalling two to four or more hours, average concentrations were equal to or above 9.0 ppm on three of the 20 days. (On most days, sampling was not conducted for a consecutive eight-hour interval on the pedestrian routes as personnel were required for other duties.)

It is recommended that:

1. The carbon monoxide problem in downtown Seattle be considered an areawide problem in the central business district, as opposed to a few isolated "hot spots".

2. Increased local source emissions be avoided in areas where violations have been observed unless a reduction in the background concentrations which is more than sufficient to offset the increase and attain and maintain the National Ambient Air Quality Standards can be demonstrated.

3. Concentrations at the permanent monitoring network above 9.0 ppm be considered as indicative of concentrations equally high and possibly higher elsewhere in the study area at the same time. However, concentrations at the permanent monitors below the 9.0 ppm standard on a particular day should not be considered as assurance that air quality standards are being met throughout the study area on that same day.

4. The permanent monitor on the east side of Fourth Avenue south of Pike Street (PIK) be considered as a candidate site to represent peak carbon monoxide concentrations in downtown Seattle for routine monitoring.

5. Planning for future studies to aid development and/or revision of control strategies to attain the natural ambient air quality standard

should consider the possible utility of ancillary data on traffic and meteorological characteristics to aid data interpretation.

# OUTDOOR SITES

The principal effort in this study was directed towards the outdoor sampling sites. Thirty-four outdoor sites were simultaneously sampled each day. Of these, two were moved at the end of two weeks, so that data from 36 study sites total were obtained over the four-week period. Figure 1 and Appendix A, Table 1 show the locations of the outdoor study sites sampled by EPA's contractor and the permanent monitors operated by the Department of Ecology in the central business district during the study.

This section discusses the study area characteristics, the study methods, and the results of this multi-site outdoor sampling for carbon monoxide.

## STUDY AREA CHARACTERISTICS

### Topography

Seattle, the largest city in the State of Washington, is bounded on the west by Elliott Bay on the eastern shore of Puget Sound and on the east by Lake Washington. The terrain between these two bodies of water is generally hilly with the major portion of the central business district (CBD) sloping to the west and, less steeply, to the south. The broad, low, valley of the Duwamish River, south of the CBD, rises sharply to the low hills of the southwest and southeast portions of the city. The Lake Union Ship Canal, which connects Lake Washington to Puget Sound, lies north of the CBD restricting access to the central business district from the northern portions of the city to bridges.

The complex terrain, urban heat island and land-sea breeze influences are factors which render evaluation of the local meteorology in the CBD difficult. Meteorological data are available from Portage Bay, which is northeast of the CBD, and from the Seattle-Tacoma airport, which is several miles to the south. More recently, the Department of Ecology has established a meteorological station at one of their downtown carbon monoxide monitoring sites (the Fire Station on Second Avenue south of Main) to aid evaluation of meteorological factors on air quality in the central business district. However, no data from the Department of Ecology station were available for the period of the survey and other meteorological data (from the more distant locations) were not analyzed in this report.

The area for this study lies within the central business district. The general study area is roughly eight blocks wide (east-west) and fourteen blocks long (north-south). The general bounds are Main-Second-Jefferson on the south, Interstate 5 - Hubbell on the east, Pike-Seventh-Olive-Stewart on the north-with a leg extending north on Fourth Avenue to Lenora, and Alaskan Way on the west.

## Population

The resident population in the general study area was inventoried in an effort to estimate the number of people exposed to the area's ambient air over prolonged periods of time. This population would not include the numerous transient residents in downtown hotels although it is recognized that some of these people may be occupants for several days, weeks, or even months. The area considered in this study conformed generally to the combined areas of established census tracts-numbers 81 and 82 plus minor additions. Tract 81 is bounded by Stewart Street, Sixth Avenue, Yesler Way, and Alaskan Way, while tract 82 is bounded by Olive Way, Ninth Avenue, Marion Street and Sixth Avenue. The 1976 estimated total population for census tracts 81 and 82 was 3,909 residents occupying 3,075 units.*

Four sites were outside these two census tracts, but their locations within the adjoining tracts did not merit including the total population estimates for these tracts in the total population for the study area. Therefore, three "legs" extending from the nearest boundary of either tract 81 or 82 to the outlying site were surveyed to determine the resident population within the "leg's" one to two block swathe. The estimated resident population was 30 people in 25 housing units for the leg including site 13; none for the leg including sites 3 and 20; and 150 people in 120 housing units for the leg including site 18. Thus, the total estimated resident population for the study area was 4,089 residents in a total of 3,220 housing units.

According to 1970 Census Bureau statistics, the age distribution of the population in tracts 81 and 82 differs from that for the County as a whole. The tracts have a larger proportion of the old and a smaller proportion of the young age groups than the County. The percentage of persons who are 19 years of age and under for these two tracts is 6% of the total as compared to a 36% share for the entire county. Persons 20 to 64 years of age account for 64% of the residents of the tracts and 55% of all County residents. Residents of these tracts who are 65 years of age or older comprise 30% of the population, in contrast to a county figure of 9%. Age distribution figures were not available for the areas of the three additional legs comprising the study area. However, a large portion of this population would probably fall into the 65 years and older category. It is thought that this relatively large proportion of elderly people resides in the study area because of proximity to many social and medical services and also because of economic considerations. It is ironic that such a disproportionate share of the elderly, who as a group are most susceptible to respiratory and cardiovascular disease, reside in an area of comparatively worse air quality as indicated by higher CO levels.

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* Central Puget Sound Region, Population and Housing Estimates as of April 1, 1976, Puget Sound Council of Governments, Seattle, Washington. April 1, 1977.

## Employment

Estimates for 1970* indicate that nearly 58,000 people were employed in various establishments in tracts 81 and 82. Of these, about 9,900 were government employees. Employment figures for the three additional legs are unknown.

## Transportation

Traffic volumes generally conform to a daily pattern, increasing markedly at 7:00 a.m. and continuing at a relatively high level throughout the day. Traffic activity is usually highest between 4:30 p.m. and 5:30 p.m.

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* Central Puget Sound Region, Employment Estimates, 1970, Puget Sound Governmental Conference, Seattle, Washington, August 7, 1972.

on the majority of streets. However, events at the Kingdome, south of the CBD, can influence traffic in that area, particularly in the evening on week-ends.

The major transportation corridors for access to the Central Business District (CBD) are Interstate 5 on the east and U.S. 99 (the Alaskan Way viaduct) on the west. Figure 1 and Appendix E show the streets connected to these limited access routes and the general pattern of traffic in the area (most streets are one-way.)

Within the CBD, traffic volumes are typically greater on the north-south avenues than on the east-west named streets. (See Appendix E). First, Second, and Fourth Avenues, carrying the greatest vehicle traffic - above 15,000 vehicles per day for the Average Weekday Traffic (AWDT) - are two-way, one-way south, and one-way north, respectively.

Southbound traffic on Fifth Avenue was restricted during the study because of street improvements under construction between Pine and Spring. During the early part of the study, the northern three-block section was closed and after it was re-opened, work commenced on the southern section. Some congestion on nearby streets suggested disruption of the normal flow of traffic in the vicinity. However, alternate south-bound routes were available and no significant increases in total traffic on nearby streets were apparent according to the City of Seattle, although traffic counts were not taken. Subjectively, the observed congestion appeared to be no worse than what often occurs in the same area later in the year during Christmas shopping or in other areas when similar construction impedes traffic flow.

Reduced traffic volumes (compared to average levels) on Columbia Street near Site 30 and on Seneca Street near First Avenue probably occurred during the survey as a result of closure of the Alaskan Way viaduct (U.S. 99) for repair work. These closures were during working hours on several days, but the viaduct continued to carry early morning and late afternoon commuter traffic on most days. Pike Street improvements were also in progress during the study, but no traffic restrictions were necessary and it seems unlikely that any significant traffic alterations resulted.

## Pedestrian Traffic

Based on a 1975 study by the City of Seattle, the average week-day pedestrian volume in the study area ranges from fewer than 1,000 persons per day to a high of 14,900 per day on the south side of Pike Street east of Second Avenue.* Volumes are generally lightest in the east and south/ south-east portions of the study area with east-west streets carrying less traffic than the north-south streets. Pedestrian volumes are heaviest in the sub-area bounded by Second Avenue, Fifth Avenue, Olive Way, and University Street (this includes portions of the shopping and financial districts) and in the waterfront area along Alaskan Way south of University. Over 10,000 persons per day walk the following streets:

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* Pedestrian volume map published by the Seattle Transportation Department.

south side of Olive Way east of Fifth, south side of Pike between Second and Fourth, east side of Third Avenue south of Pike, west side of Fourth Avenue between Pine and University, and Alaskan Way south of University. Pedestrian traffic on the same side of the street as the permanent monitor ranges from 600 per day at the James Street site (JAM) to 8,500 persons per day at the Pike Building (PIK) on the east side of Fourth Avenue south of Pike and also at the Singer (SIN) monitor on the south side of Pike east of Fourth Avenue.

## MATERIALS AND METHODS

### Selection and Evaluation of Study Period

The Washington State Department of Ecology established a permanent NDIR (non-dispersive infra-red) CO monitoring site at James Street east of Fourth Avenue in downtown Seattle during 1971. Numerous violations of the National Ambient Air Quality Standards (NAAQS) primary standard of 9.0 ppm CO have been measured there since that site's inception. Violations have occurred not only at that site, but also at other sites established in the downtown area. Data from two of the Seattle sites, the James Street site (JAM) and the Second and University site (UNI), are routinely reported to EPA to follow progress with the State implementation plan (SIP) to achieve the air quality standards. These are not the only sources from which trends of CO characteristics can be inferred, but were selected for analysis as it was felt they would be fairly representative of conditions within the study area for the factors considered here.

The October 1977 study period was selected in anticipation of frequent days of high carbon monoxide concentrations. This was based on review of existing data through December 1976. High CO levels are experienced any time of year, but more severely in the fall and winter months. Within this interval, October or September usually has the highest CO concentrations at the James Street monitor and December at the Second and University Street location. Although October is not usually the month of the year with the highest incidence of days having at least one eight-hour average greater than 9.0 ppm (except for 1977 at the Second Avenue and University Street location), nonetheless, violations are frequently recorded during October. The potential for poor ventilation during the selected study period was also considered. Stable atmospheric (inversion) conditions frequently exist in the fall months*. Consequently, October appeared to be a potentially satisfactory month for sampling to obtain data during at least a few days of high carbon monoxide levels. Another consideration in selecting October was that the sampling equipment used in Seattle would be required for a similar study in Boise during November - December and in Anchorage during January and February.

The study period included only 10:00 a.m. to 6:00 p.m. on weekdays, Monday through Friday, because this five-consecutive day interval was thought to provide the most effective sampling of the maximum concentrations during a seven-day week. Previous state data have indicated that Saturdays and

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* Ground level stable air is probably a significant factor in high CO concentrations. It is thought that an urban heat island effect may create less stable air at ground-level in the city than in outlying areas.

Sundays usually have the lowest concentrations during the week. The selected study interval of 10:00 a.m. to 6:00 p.m. (clock hours to facilitate data comparisons with the established permanent monitors) was based on a desire to approximate the daily maximum eight-hour period although this period varies from day-to-day and site-to-site.

Monthly maximum and second-highest CO concentrations at three state sites (PIK, UNI, and JAM) during 1976 were analyzed to determine which eight-hour interval during a day produced high values. The frequencies of the ending hours for all monthly maximum and second-high eight-hour averages were combined. On this basis, the eight-hour period ending at 6:00 p.m. appeared to most frequently result in high eight-hour averages at the monitors located on Fourth Avenue south of Pike and at Second Avenue south of University Street. The eight-hour interval ending at 5:00 p.m. appeared somewhat better than the interval ending at 6:00 p.m. for the James Street site. Practical considerations led to preference of the 10:00 a.m. to 6:00 p.m. period, because samples were manually turned off at the end of the sampling period and could vary by plus or minus 15 minutes from the designated beginning or ending time. (The variation in total sample length was restricted to plus or minus 15 minutes.) To minimize variabilities due to the fluctuating traffic, it was desired to encompass the entire afternoon traffic peak at all sites. This peak often occurs sometime between 4:30 p.m. and 5:30 p.m. Thus, the 10:00 a.m. - 6:00 p.m. interval was selected. Consecutive four-hour periods permitted calculation of eight-hour averages for comparison with the NAAQS, and confined the total daily expenditure of the contractor's time and effort to an acceptable period, thereby reducing overall costs.

In retrospect, the 10:00 a.m. - 6 :00 p.m. period was appropriate from the standpoint of frequently observing daily maximum or near maximum eight-hour concentrations at the permanent monitors. At JAM, on ten of the 12 days for which comparisons could be made, the average for this period was within 1 ppm of that for the maximum period. Furthermore, for 15 of 17 comparable averages at the Second and University site, the concentration ending at 6:00 p.m. was within 1 ppm of the daily maximum eight-hour value. At the Fourth and Pike monitor, the daily maximum never exceeded the eight-hour average ending at 6:00 p.m. by more than 1 ppm during the study period. (All values were rounded to the nearest ppm for comparison.)

## Site Selection

The major emphasis on site selection was on those locations expected to represent relatively high CO concentrations and population exposure in a portion of the study area. However, some sites were chosen simply to provide data on the distribution of CO within the area or in sub-areas of interest due to future planning or existing land use (e.g. residential). Locations were avoided where unusually high CO might occur due to close proximity to idling vehicles such as at street corners or near the entrance/exit to major parking areas. Adherence to this constraint as well as physical limitations on available points to attach samplers meant it was not always possible to place sampling equipment in the preferred street block or location within the block.

Many of the sites were selected using a modified screening technique (intended to identify potential "hot spots") which included physical inspection of the potential sites. The "hot spot" screening guidelines prepared for EPA consist of a two-stage process[*]. Initially, all the traffic volumes must be identified as well as street lane configurations for various intersections (or traffic speed and lane capacities on certain roadways). These minimal data enable the user to enter prepared charts which are based on assumed meteorological conditions, vehicle mixes, and emission factors and identify sites where potential violations may exist. This procedure completes the first stage of analysis.

The second stage requires additional input data to enter a second series of charts that present the potential magnitude of the standards violation (but not the frequency). Because resources were limited, only the first stage screening was attempted. Onsite inspections of the general locale identified the specific sampling point within the general area. Also, such factors as non-traffic related sources of carbon monoxide, adjacent land uses, and probable receptors (resident population, office workers, pedestrians, etc.) were identified. Criteria included:

Distance from intersection -- more than 10 meters
Distance from major parking lot entrance/exit -- more than 10 meters
Distance from curb -- more than 1 meter
Height -- 3 ± ½ meter[**]
Distance from building surfaces -- more than 2 meters

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[*] EPA - 901/9-76-001 and 002, Guidelines for Identification and Evaluation of Localized Violations of Carbon Monoxide Standards, prepared for U.S. EPA, Region I Office, Boston, Massachusetts by GCA/Technology Division, Bedford, Mass. 01730 (A later version of these guidelines is now available.)

[**] Sample inlets were established at 3 ½ meters.

Descriptions of the selected outdoor sites appear in Appendix A. Figure 1 shows the relative locations of all the outdoor sites. Four sites were designated for 10 days of sampling (rather than 20 days). Two of these (sites 32 and 33) were on the extreme west side of the general study area on the waterfront (Alaskan Way). The other two were on the extreme east side of the study area, one of these was located within the Freeway Park (site 35) and the other was on the east side of the I-5 freeway near a large apartment building (site 21).

## Sample Collection and Analysis

The contractor, using EPA equipment, collected and analyzed samples twice daily. At each site, a small (330 grams), intermittently operating, battery-powered pump* filled an aluminized mylar bag within a cylindrical plastic tube at about one liter per hour. The piston pump pulsed on approximately every 10-12 seconds at this sampling rate. Field adjustments of the pulse rate per minute are possible. Power for several days' operation came from one each 9 V and 1.5 V batteries. After sampling for four hours (about 10:00 a.m. to 2:00 p.m. - AM sample), bags were removed to a field laboratory for analysis by an electrochemical method. Collection of a second 4-hour sample (PM) was begun using a different bag within less than a minute after collection of the AM sample.

The sampling stations used during the study were designed to contain the pulse pump and bag in a weather-proof shelter in a portable and easily removable configuration. Appendix B describes the sampling station consisting of a bag/pump unit which was removed daily and a "permanent" bracket unit upon which the bag/pump was mounted. Two types of mounting bracket units - one for attachment to light poles (or utility poles) and one for parking meter poles - were used. The aluminized mylar bag in a 33 inch long, 4-inch diameter cylinder was connected to the pump by a piece of flexible tubing less than eight inches long. Separate bag-cylinder units were used for AM and PM samples.

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* Modified Pulse Pump I manufactured by Environmental Measurements, Inc., 215 Leidesorff Street, San Francisco, CA 94111 (415) 398-7664.

Two dual-range (0-50 ppm; 0-100 ppm) Ecolyzers* or, in one instance a single range (0-100 ppm) Ecolyzer, were used for analysis. The manufacturer's specifications claim a sensitivity of 0.5 ppm, an accuracy of ± 1% full scale, and essentially linear response. Although previous studies by others have found similar Ecolyzers to respond essentially linearly over the range of the instrument, each instrument was checked. Using the dual-range Ecolyzer, study samples were analyzed on the 0-50 ppm scale, which would imply ± 0.5 ppm accuracy according to the manufacturer's specifications. A 1-volt DC recorder** provided a record of the contractor's sample analyses, although the Ecolyzer meter reading was the primary data record.

All samples were analyzed within 24 hours of collection. Morning samples were usually analyzed in the afternoon of the same day and afternoon samples were analyzed the following morning. The analytical procedure included an initial span check using a 20.0 ppm CO (plus or minus 0.2 ppm) in air primary standard traceable to National Bureau of Standards (NBS). This was repeated at least every hour or after half of the analyses, whichever came first. The instrument was electronically zeroed between analyses. After a series of analyses for AM or PM samples, the instrument zero and span were again checked. These checks and sample analyses were recorded on a strip chart as a secondary record, with the actual meter reading of the Ecolyzer by the instrument operator as the primary record.

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* Model 2600 and Model 2100 Ecolyzers manufactured by Energetics Science, Inc., 85 Elmsford Blvd., Elmsford, New York 10523 (914) 592-3010.

** Manufactured by Gulton, Inc.

## Quality Control

The contractor's performance was reviewed in the field as well as by comparing strip chart records with data recorded by the operator. Instrument performance was monitored through several checks on the air flow, response time, zero and span drift, and linearity of the instrument. Linearity was checked several times and appeared to be acceptable in the range of concentrations observed during the survey. Various air/CO mixtures, traceable to the National Bureau of Standards (NBS) were used as standards. One of the two certified CO/air mixtures used both for linearity checks and in daily span checks was analyzed by the Washington State Department of Ecology after the survey by nondispersive infra-red analysis. The concentration corresponded to the manufacturer's claimed value within the accuracy of the measurement technique. This mixture was a primary standard traceable to NBS, supplied in an aluminum spectroseal cylinder by Scott-Marrin, Inc., Riverside, California, and certified by the manufacturer at 20.0 ± 0.2 ppm. The other mixture used in daily span checks, 20.3 ± 0.2 ppm, was compared with the 20.0 ppm mixture and found to be satisfactory. Additional primary standards from this manufacturer used during this survey to check instrument performance were air/CO mixtures at the following CO concentrations: 4.93 ± .05 ppm; 9.85 ± 0.1 ppm; 38.9 ± 0.4 ppm; and 0 ppm (ultrapure air). NBS standards utilized after the survey were air/CO mixtures at 43.2, 18.0, 9.53 ppm.

The instrument response to the internal electronic zero (recommended by the manufacturer for zeroing the instrument) was essentially the same as to zero air input, except when loose internal or external hose connections allowed infiltration of ambient air. This proved a convenient check on operator set-up of the instrument for sample analysis.

Comparisons of Paired Study Site/Permanent Monitor Data - At three permanent monitor locations, a study site was selected as close as possible to the monitoring probe inlet. However, the study equipment was always affixed to a parking meter or light pole in order to maintain the same relationship to the roadway as at other study sites. Consequently, the distance between inlets ranged from a few feet to several yards. This complicated comparisons of results from the study method (bag sampling/Ecolyzer analysis) with the routine monitoring method (continuous sampling/NDIR analysis) because differences due to different vertical and horizontal placement of the study sample inlet and the permanent monitor probe were expected. The results are discussed in the following sections.

Site 9/Pike Building - At the permanent monitor on Fourth Avenue south of Pike Street (Pike Building), the study equipment was affixed to the same pole which supported the permanent monitoring inlet probe. However, because the study equipment was attached in the same manner as at other locations, the actual study sample inlet at 3½ meters was higher than the permanent monitoring probe inlet and slightly further removed from the lane of traffic. Nevertheless, this pair of study site/permanent monitor sampling inlets probably represented the best comparison of sampling methods obtained during the study because the physical separation of sample inlets was much less than at other "paired" sites.

Eight-hour averages were compared for the seventeen days when data were available for both sites. On all but three days, the difference between the eight-hour averages obtained for site 9 and the Pike Building monitor was less than 1.0 ppm. (The difference exceeded 2.0 ppm on two days: October 14 - 3.4 ppm, and on October 11 - 2.1 ppm). Linear regression analysis indicated that eight-hour averages from the two locations were highly correlated, (R-SQ equalled 0.91 for the linear regression line: AVC= 1.6 + 0.8 x AVSP).

Site 24/Singer - As another comparison, one study site was selected as close as possible to the monitoring probe inlet at Pike Street east of Fourth Avenue. The study equipment was attached to a lamp pole several meters west of the monitoring probe. The inlet for the study sample was therefore several meters west, slightly closer to the lane of traffic, and about 0.5 meter higher. Consequently, differences due to horizontal and vertical concentration gradients were anticipated.

The eight-hour averages from the two locations were correlated; data from the study site were usually somewhat lower (R-SQ equalled 0.84 for the regression line: AVC = -1.7 + 1.1 x AVSP based on 13 data pairs). It is difficult to determine what the overall effects of differences in probe locations may have been. Differences may have resulted partially or wholly from non-uniform distribution of CO vertically and along the street.

Site 5/Permanent Monitor on Second Avenue South of University Street - Data were also compared for study site 5 and the state monitor (UNI) located on the west side of Second Avenue south of University. These were not collocated due to the unavailability near the state site of a nearby parking meter or lamp pole. However, site 5 was established at the closest suitable location (parking meter 021211) and was several feet south of the state monitor as well as a few feet closer to the curb. The data were somewhat correlated (R-SQ = 0.69 for the equation: AVC = 1.0 + .92 x AVSU based on 16 data pairs).

## RESULTS AND DISCUSSION

Data were examined for (1) the relative magnitude of carbon monoxide concentrations at various sites (spatial extent) for the same time period and (2) the suggested patterns of values. To evaluate the study period, the State site's data obtained previous to and during the survey were compared. Several measures of the magnitude of the carbon monoxide problem were evaluated for the study sites. Maximum and minimum concentrations for each sample interval (AM, PM, and eight-hour average) for each site, for each day, and overall for the entire study were examined. Because the National Ambient Air Quality Standard addresses the second-highest eight-hour average, this figure was identified for each site as well as the frequency of samples exceeding 9.0 ppm. Comparisons were made with similar measures for the State's permanent monitors. In addition, ratios of concentrations at each site to those at the permanent monitors were evaluated. Correlations between the State's permanent monitors on Second Avenue, Fourth Avenue, Pike Street, and James Street, and the closest EPA study sites were discussed in an earlier section of this report. Possible correlations between other sites located on the same street were investigated. In a later section of this report, comparisons are made with indoor sites.

## Magnitude and Spatial Distribution of Carbon Monoxide

Collecting samples during about the same hours at a relatively large number of sites afforded a view of the carbon monoxide distribution over a relatively wide area for comparison with the permanent monitors. The daily values for AM, PM, and eight-hour intervals at each site are contained in Appendix D. Summary statistics have been graphed as box plots and/or as histograms on a base map (Figures 2 through 14).

Box plots depict for each site the distribution of the calculated eight-hour averages (Figure 2) and the measured concentrations for AM and PM samples (Figures 3 and 4). The range, median, arithmetic mean, and arithmetic standard deviation for each site were based on nominally 20 days or 10 days of samples, depending on the site schedule; missing data were not estimated. For the eight-hour average distributions, each site's second-highest value is also shown. Other box plots (Figures 10, 11, and 12), show the distributions of eight-hour, AM, and PM data for each day based on all sites (34 or fewer) values. Recall that 2 of the 34 sites were relocated after 10 days.

For each site, histograms on a base map depict the highest eight-hour average (Figure 5), the frequency of eight-hou · averages exceeding 9.0 ppm (Figure 6), the second-highest eight-hour average (Figure 7), the maximum AM and PM averages (Figures 8 and 9), and the arithmetic mean of all eight-hour averages observed during the survey (Figure 13). Although similar statistics also appear on the box plots (with the exception of the frequency of eight-hour averages greater than 9.0 ppm), these histograms/maps permit easier visualization of the spatial distribution of values for the statistics of greatest interest. The last histogram/map (Figure 14) represents each site's eight-hour average on the day of the highest overall average for all sites to show the pattern prevailing on the day when most sites experienced their maximum concentrations. (Sites 32 and 34, which were sampled only during the first half of the survey, are not included on this October 28, 1977 map.)

## Maximum Eight-Hour and Four-Hour Averages

High carbon monoxide levels were found not only in the vicinity of the State's permanent monitors but also at many other sites within the study area. Figures 2 and 5 and Table 1 show the maximum eight-hour averages for 10:00 a.m. to 6:00 p.m. (AVC) for each site during the study. About 61% of the 36 sampling sites* experienced one or more days when the eight-hour average (AVC) equalled or exceeded 9.0 ppm (Figure 2 and Table 2 ). This is the level of the National Ambient Air Quality Standard for eight hours which is not to be exceeded more than once per year. More sites experienced high carbon monoxide during the PM sampling interval than during the AM interval (see Figures 3, 4, 11 and 12, and Tables 1 and 2). For 72% of the

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* 26 out of 36 total sites.

## Table 1. Maximum Values from Thirty-Six Sites and Five Permanent Monitors
(Carbon Monoxide in PPM)

| Site | Maximum AM 10 AM - 2 PM | Maximum PM 2 PM - 6 PM | Maximum AVC 10 AM - 6 PM | % AVC GT 9.0 | Ratio.1 1/ James 2/ | Ratio.1 University 3/ | Ratio.1 Singer 4/ | Ratio.1 Pike 5/ | Ratio.1 Fire Station 6/ | Date of Maximum AVC |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 12.4 | 19.9 | 16.1 | 33.0 | - | 1.3 | 1.3 | 1.2 | 2.5 | 10/28/77 |
| 2 | 11.9 | 8.0 | 7.4 | 0.0 | - | - | 0.9 | 1.0 | - | 10/27/77 |
| 3 | 13.8 | 13.6 | 11.0 | 11.0 | - | 0.9 | 0.9 | 0.8 | 1.7 | 10/28/77 |
| 4 | 10.6 | 13.0 | 11.8 | 22.0 | - | 0.9 | 1.0 | 0.9 | 1.8 | 10/28/77 |
| 5 | 17.0 | 14.9 | 13.7 | 35.0 | - | - | 1.6 | 1.8 | - | 10/27/77 |
| 6 | 7.8 | 8.7 | 7.9 | 0.0 | 0.8 | 1.8 | 1.3 | 0.7 | - | 10/19/77 |
| 7 | 16.8 | 12.2 | 14.5 | 57.0 | - | 1.1 | 1.2 | 1.1 | 2.8 | 10/28/77 |
| 8 | 10.9 | 14.5 | 10.4 | 19.0 | 2.2 | 1.0 | 1.1 | 0.9 | - | 10/21/77 |
| 9 | 10.9 | 17.1 | 14.0 | 32.0 | - | 1.1 | 1.1 | 1.0 | 2.1 | 10/28/77 |
| 10 | 14.4 | 17.8 | 15.0 | 33.0 | - | 1.2 | 1.2 | 1.1 | 2.3 | 10/28/77 |
| 11 | 12.6 | 12.0 | 11.4 | 26.0 | 1.2 | 1.6 | 1.7 | - | 2.3 | 10/10/77 |
| 12 | 10.0 | 10.5 | 10.3 | 7.0 | - | 0.8 | 0.8 | 0.8 | 1.6 | 10/28/77 |
| 13 | 8.0 | 9.0 | 7.0 | 0.0 | 0.6 | 1.1 | 1.2 | 0.4 | - | 10/14/77 |
| 14 | 6.5 | 8.1 | 7.3 | 0.0 | - | 0.6 | 0.6 | 0.5 | 1.1 | 10/28/77 |
| 15 | 11.0 | 11.1 | 10.3 | 6.0 | - | 0.8 | 0.8 | 0.8 | 1.6 | 10/28/77 |
| 16 | 10.4 | 11.5 | 10.0 | 17.0 | 1.7 | 0.9 | 1.1 | 1.0 | 1.7 | 10/06/77 |
| 17 | 15.4 | 12.8 | 12.0 | 47.0 | - | - | 1.4 | 1.6 | - | 10/27/77 |
| 18 | 7.5 | 7.8 | 7.4 | 0.0 | - | 0.6 | 0.6 | 0.5 | 1.1 | 10/28/77 |
| 19 | 13.6 | 15.9 | 13.9 | 80.0 | - | 1.1 | 1.1 | 1.0 | 2.1 | 10/28/77 |
| 20 | 5.5 | 5.2 | 4.4 | 0.0 | - | 0.3 | 0.4 | 0.3 | 0.7 | 10/28/77 |
| 21 | 8.0 | 6.1 | 7.1 | 0.0 | - | 0.6 | 0.6 | 0.5 | 1.1 | 10/28/77 |
| 22 | 13.7 | 18.6 | 11.2 | 26.0 | - | - | 1.3 | 1.6 | - | 10/27/77 |
| 23 | 12.9 | 14.0 | 11.4 | 11.0 | 2.4 | 1.0 | 1.2 | 1.0 | - | 10/21/77 |
| 24 | 10.7 | 12.0 | 10.7 | 12.0 | - | 0.8 | 0.9 | 0.8 | 1.6 | 10/28/77 |
| 25 | 12.0 | 9.1 | 9.3 | 5.0 | - | 0.7 | 0.8 | 0.7 | 1.4 | 10/28/77 |
| 26 | 8.0 | 10.9 | 8.6 | 0.0 | 0.8 | 1.4 | 1.5 | 0.5 | 0.8 | 10/14/77 |
| 27 | 7.7 | 9.5 | 8.5 | 0.0 | 1.8 | 0.8 | 0.9 | 0.7 | - | 10/21/77 |
| 28 | 10.1 | 13.0 | 10.2 | 27.0 | 0.9 | 1.6 | 1.7 | 0.6 | - | 10/14/77 |
| 29 | 11.0 | 14.1 | 10.4 | 5.0 | - | 0.8 | 0.8 | 0.8 | 1.6 | 10/28/77 |

Table 1. (continued)

| Site | Maximum AM 10 AM - 2 PM | Maximum PM 2 PM - 6 PM | Maximum AVC 10 AM - 6 PM | % AVC GT 9.0 | Ratio.1[1] James | Ratio.1 University | Ratio.1 Singer | Ratio.1 Pike | Ratio.1 Fire Station | Date of Maximum AVC |
|---|---|---|---|---|---|---|---|---|---|---|
| 30 | 7.0 | 9.0 | 7.9 | 0.0 | 0.7 | 1.3 | 1.3 | 0.5 | - | 10/14/77 |
| 31 | 7.1 | 7.9 | 7.2 | 0.0 | 1.0 | 0.8 | - | 0.8 | 1.2 | 10/28/77 |
| 32 | 5.5 | 5.2 | 5.4 | 0.0 | 0.6 | 0.8 | 0.8 | - | 1.1 | 10/10/77 |
| 33 | 5.0 | 4.5 | 4.6 | 0.0 | 0.5 | 0.7 | 0.7 | - | 0.9 | 10/10/77 |
| 34 | 9.3 | 11.9 | 10.3 | 6.0 | - | 0.8 | 0.8 | 0.8 | 1.6 | 10/28/77 |
| 35 | 7.8 | 5.5 | 5.7 | 0.0 | - | - | 0.7 | 0.7 | - | 10/27/77 |
| 36 | 11.6 | 12.9 | 11.4 | 41.0 | 1.2 | 1.6 | 1.7 | - | 2.3 | 10/10/77 |
| JAM[2] | 10.0 | 12.3 | 11.1 | 27.0 | 1.0 | 1.8 | 1.9 | 0.7 | - | 10/14/77 |
| UNI[3] | 11.0 | 14.5 | 12.8 | 15.0 | - | 1.0 | 1.0 | 0.9 | 2.0 | 10/28/77 |
| SIN[4] | 10.8 | 13.8 | 12.3 | 16.0 | - | 1.0 | 1.0 | 0.9 | 1.9 | 10/28/77 |
| PIK[5] | 13.5 | 18.0 | 15.8 | 40.0 | 1.4 | 2.5 | 2.7 | 1.0 | - | 10/14/77 |
| FIR[6] | 6.0 | 7.8 | 6.5 | 0.0 | - | 0.5 | 0.5 | 0.5 | 1.0 | 10/28/77 |

Footnotes

1. Ratio.1 - Ratio of the maximum eight-hour average at the study site to the eight-hour average at the same time (and day) at the permanent monitor.
2. Permanent monitor on James Street east of Fourth Avenue (JAM).
3. Permanent monitor on Second Avenue south of University Avenue (UNI).
4. Permanent monitor on Pike east of Fourth Avenue (SIN).
5. Permanent monitor on Fourth Avenue south of Pike Street (PIK).
6. Permanent monitor on Second Avenue south of Main Street (FIR).

NOTE: Eight-hour averages for the permanent monitors were calculated from hourly averages (eight values). No estimates were made for missing data.

Table 2. Distribution of Maximum Values
from Thirty-Six Sites in Seattle

| Range of Maximum Carbon Monoxide, ppm | Percent of Sites Within Range<br>Maximum AM 10 AM-2 PM | <br>Maximum PM 2 PM-6 PM | <br>Maximum AVC 10 AM-6 PM |
|---|---|---|---|
| 0 - 2.9 | 0 | 0 | 0 |
| 3.0 - 5.9 | 8 | 11 | 11 |
| 6.0 - 8.9 | 28 | 17 | 28 |
| 9.0 - 11.9 | 31 | 25 | 42 |
| 12.0 - 14.9 | 25 | 33 | 14 |
| 15.0 - 17.9 | 8 | 8 | 5 |
| 18.0 - 21.0 | 0 | 6 | 0 |

sites, at least one PM average equalled or exceeded 9.0 ppm, but only about 64% had an AM average equal to, or greater than 9.0 ppm. Table 2 summarizes the distributions of the maximum AM, PM, and AVC values for the 36 sample sites and the five permanent monitors.

For fourteen study sites and one permanent monitor (2, 6, 13, 14, 18, 20, 21, 26, 27, 30, 31, 32, 33, 35 and FIR), the maximum AVC did not exceed 9.0 ppm. Lower concentrations than at other sites were expected at a number of these locations due to ventilation and/or remoteness from heavy local traffic. The smallest maximum eight-hour average concentration, 4.4 ppm, occurred at site 20 in Occidental Park. The next lowest concentrations, 4.6 and 5.4 ppm, were on the west side of Alaskan Way (site nos. 33 and 32, respectively). For comparison, the site within the Freeway Park (Site 35) experienced only a slightly higher maximum AVC (5.7 ppm).

Of the maximum eight-hour concentrations at each study site for the 10:00 a.m. to 6:00 p.m. period (Figure 2), the highest value was about 16.1 ppm. This was 1.2 to 2.5 times as high as at the permanent monitors for the same time and day. This occurred on October 28 on First Avenue South of Pike Street (site 1), which is the street in the study area with the highest average weekday traffic according to 1975 data. Of the remaining study sites, the next highest eight-hour value, 15.1 ppm, was on Fourth Avenue south of Union Street at site 10 and was 1.1 to 2.3 times as high as at the permanent monitors. These sites (1 and 10) are on major NW-SE streets. The maximum eight-hour concentrations at the permanent monitors ranged from 6.5 ppm at the FIR on Second Avenue south of Main to 15.8 ppm at the Pike Building site (Fourth Avenue south of Pike).

The maximum eight-hour average during the survey very nearly equalled that of the Pike Building monitor for the 10:00 a.m. to 6:00 p.m. period at only one study site (site 1). However, five additional study sites (5, 7, 9, 10, and 19) also had maximum AVC's exceeding that of the Second and University site (12.8 ppm) which was the next highest of the permanent monitors. Six additional sites (4, 11, 17, 22, 23, and 36) also had higher maximum AVC's than the James Street permanent monitor which is one of the SIP sites*. Only four sites (20, 32, 33 and 35) had maximum AVC's below that of the Fire Station permanent monitor.

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* Hourly data for SIP sites are reported quarterly to EPA in connection with tracking the progress of the state implementation plan for attainment of air quality standards. The Second and University site is also an SIP site.

### Table 3. Second-Highest Eight-Hour Averages (10:00 AM to 6:00 PM) From Thirty-Six Sites and Five Permanent Monitors

| Site | Date of Second High | Second High Eight-Hour Average | Ratio.2[1] James[2] | Ratio.2 University[3] | Ratio.2 Singer[4] | Ratio.2 Pike[5] | Ratio.2 Fire Station[6] |
|---|---|---|---|---|---|---|---|
| 1 | 10/27/77 | 11.7 | - | - | 1.4 | 1.5 | - |
| 2 | 10/28/77 | 7.0 | - | 0.5 | 0.6 | 0.5 | 1.1 |
| 3 | 10/06/77 | 10.2 | 1.7 | 1.0 | 1.1 | 1.1 | 1.7 |
| 4 | 10/21/77 | 10.5 | 2.2 | 1.0 | 1.1 | 0.9 | - |
| 5 | 10/28/77 | 11.9 | - | 0.9 | 1.0 | 0.9 | 1.8 |
| 6 | 10/10/77 | 7.4 | 0.8 | 1.1 | 1.1 | - | 1.5 |
| 7 | 10/10/77 | 12.9 | 1.4 | 1.8 | 1.9 | - | 2.6 |
| 8 | 10/27/77 | 10.0 | - | - | 1.2 | 1.3 | - |
| 9 | 10/14/77 | 12.4 | 1.1 | 2.0 | 2.1 | 0.8 | - |
| 10 | 10/21/77 | 15.0 | 3.1 | 1.4 | 1.5 | 1.2 | - |
| 11 | 10/28/77 | 10.8 | - | 0.8 | 0.9 | 0.8 | 1.7 |
| 12 | 10/06/77 | 7.0 | 1.2 | 0.7 | 0.7 | 0.7 | 1.2 |
| 13 | 10/18/77 | 6.4 | 0.9 | 0.9 | 1.1 | 1.1 | - |
| 14 | 10/14/77 | 5.7 | 0.5 | 0.9 | 1.0 | 0.4 | - |
| 15 | 10/17/77 | 9.0 | - | 1.8 | - | - | - |
| 16 | 10/18/77 | 9.7 | 1.4 | 1.3 | 1.7 | 1.6 | - |
| 17 | 10/28/77 | 11.6 | - | 0.9 | 0.9 | 0.8 | 1.8 |
| 18 | 10/19/77 | 5.8 | 0.6 | 1.3 | 0.9 | 0.5 | - |
| 19 | 10/12/77 | 13.5 | 3.3 | - | - | 1.6 | - |
| 20 | 10/20/77 | 4.1 | 0.6 | 0.5 | - | 0.5 | 0.7 |
| 21 | 10/27/77 | 6.7 | - | - | 0.8 | 0.9 | - |
| 22 | 10/21/77 | 10.9 | 2.3 | 1.0 | 1.1 | 0.9 | - |
| 23 | 10/21/77 | 9.9 | 2.4 | - | - | 1.2 | - |
| 24 | 10/21/77 | 9.6 | 2.0 | 0.9 | 1.0 | 0.8 | - |
| 25 | 10/27/77 | 9.0 | - | - | 1.0 | 1.2 | - |
| 26 | 10/11/77 | 8.0 | 0.8 | 1.0 | 1.1 | 0.6 | 2.6 |
| 27 | 10/28/77 | 7.1 | - | 0.6 | 0.6 | 0.5 | 1.1 |
| 28 | 10/07/77 | 10.0 | 1.6 | 1.7 | 1.7 | 2.1 | 2.9 |
| 29 | 11/01/77 | 8.1 | - | 2.3 | - | 1.8 | 4.6 |

Table 3. (Cont'd)

| Site | Date of Second High | Second High Eight-Hour Average | Ratio.2[1] James[2] | Ratio.2 University[3] | Ratio.2 Singer[4] | Ratio.2 Pike[5] | Ratio.2 Fire Station[6] |
|---|---|---|---|---|---|---|---|
| 30 | 10/19/77 | 7.4 | 0.7 | 1.7 | 1.2 | 0.6 | - |
| 31 | 10/28/77 | 7.2 | - | 0.6 | 0.6 | 0.5 | 1.1 |
| 32 | 10/06/77 | 4.3 | 0.7 | 0.4 | 0.5 | 0.4 | 0.7 |
| 33 | 10/17/77 | 4.2 | - | 0.9 | - | - | - |
| 34 | 10/27/77 | 8.7 | - | - | 1.0 | 1.1 | - |
| 35 | 10/28/77 | 5.1 | - | 0.4 | 0.4 | 0.4 | 0.8 |
| 36 | 10/14/77 | 11.1 | 1.0 | 1.8 | 1.9 | 0.7 | - |
| JAM[2] | 10/19/77 | 10.3 | 1.0 | 2.3 | 1.7 | 0.9 | - |
| UNI[3] | 10/21/77 | 10.9 | 2.3 | 1.0 | 1.1 | 0.9 | - |
| SIN[4] | 10/21/77 | 9.8 | 2.0 | 0.9 | 1.0 | 0.8 | - |
| PIK[5] | 10/28/77 | 13.6 | - | 1.1 | 1.1 | 1.0 | 2.1 |
| FIR[6] | 10/06/77 | 6.0 | 1.0 | 0.6 | 0.6 | 0.6 | 1.0 |

Footnotes

1. Ratio.2 - Ratio of the second-highest eight-hour average at the study site to the eight-hour average at the same time (and day) at the permanent monitor.
2. Permanent monitor on James Street east of Fourth Avenue (JAM)
3. Permanent monitor on Second Avenue south of University Street (UNI)
4. Permanent monitor on Pike east of Fourth Avenue (SIN)
5. Permanent monitor on Fourth Avenue South of Pike Street (PIK)
6. Permanent monitor on Second Avenue south of Main Street (FIR)

Note: Eight-hour averages for the permanent monitors were based on averages of eight hourly values. Missing data were not estimated.

At seventeen sites, the eight-hour standard was exceeded more than once and several (1, 5, 7, 9, 10, 11, 17, 19, 22, 28, and 36) experienced exceedences on over 25% of the sampled days. At the Pike Building permanent monitor, 40% of the 10:00 a.m. to 6:00 p.m. averages (AVS's) exceeded 9.0 ppm. Comparable or greater frequencies were observed at sites 7, 17, 19, and 36 with the most frequent exceedences at site 19 (80% of the sampled days). Figure 6 illustrates the frequency of AVC's greater than 9.0 ppm for each site.

### Second-Highest Eight-Hour Averages (AVC's)

Figures 2 and 7 and Table 3 show the second-highest AVC for each site. However, the study design did not permit comparison of sites as to the extent by which the eight-hour standard may have been violated at each site during October-November, because only one eight-hour period, 10:00 a.m. to 6:00 p.m., was included each day. For example, the AVC for a site heavily affected by morning peak hour traffic may be low on Figure 2 because this peak was not included in the sampling period. However, the maximum eight-hour period for that site may have encompassed that time.

The study data indicate that some sites, even with this limited data base, appear to violate the 9.0 ppm eight-hour standard which is not to be exceeded more than once per year. A total of seventeen study sites (1, 3, 4, 5, 7, 8, 9, 10, 11, 16, 17, 19, 22, 23, 24, 28, and 36) experienced at least two days with an eight-hour average over 9.0 ppm. (See Table 3.) These sites were widespread through the study area and included sites on First Avenue (south of Pike and Washington); Second Avenue (south of Pine and University); Third Avenue (south of Union and Cherry); Fourth Avenue (south of Pike, Union, and Madison); Sixth Avenue (south of Pine and Union); Olive (east of Fifth); Pike (east of Seventh and Fourth and west of First); and Pine (east of Fifth). Undetected violations may have occurred at other sites or with greater magnitude at these same sites during the days of the study.

The maximum second-highest AVC, recorded for any site was 15.0 ppm at site 10 on Fourth Avenue south of Union. For comparison, the second-highest eight-hour averages for the permanent monitors during the study period ranged from 6.0 ppm at the Fire Station to 13.6 ppm at the Pike Building (a block and a half north of site 10). The second-highest eight-hour average at the Pike Building monitor was equalled or exceeded by second-high AVC's only at site 10.

## Comparisons of AM and PM Averages

For each of the state's permanent monitors, the maximum AM average was lower than the maximum PM average. Because the AM period did not include the typical morning traffic peak, but the PM period spanned the time of the usual late afternoon commuter traffic, it was expected that AM average concentrations at most sites would be less than PM averages. Although this seemed generally true (Appendix C), the highest sample concentration for the AM exceeded the highest for the PM at twelve locations (2, 3, 5, 7, 11, 17, 20, 21, 25, 32, 33, and 35). This is shown in Table 3 and Figures 3, 4, 8, and 9. Although differences were slight in some cases, the AM maximum was 2 ppm or more higher than the PM maximum for six of these sites (2, 5, 7, 17, 25 and 35).

On most days, the AM averages were less than for the PM averages (as shown by comparison of the composite median of all sites on each day in Figures 11 and 12). Except for three days, the highest four-hour average, considering all sites, occurred in the afternoon. Exceptions were on October 7, 24, and 27, 1977.

Figures 10, 11 and 12 also illustrate the unusually high concentrations which prevailed on October 28 (Friday) and the higher medians on October 27 (Thursday) for eight-hour and AM averages. The AM averages were also generally highest on October 28 (Figure 11). Low values were apparent on the very windy days during the last week of the survey.

The highest AM and PM averages of those observed at study sites were higher than corresponding values for any of the permanent monitors. The highest AM average, 15.4 ppm, occurred on Sixth Avenue south of Pine (site 17). The highest PM average 19.9 ppm, occurred on First Avenue south of Pike (site 10A). In comparison, the maximum AM and PM averages considering all of the state sites were 13.5 and 18.0 ppm at the Pike Building.

## Average of Eight-Hour Values at Each Site

For two sites, the average of all eight-hour values exceeded 9.0 ppm (sites 7 on Third south of Union, and 19 on Sixth south of Union). Relative averages for all sites appear in Figure 13. Most of the sites with low averages were on the periphery of the study area; however, not all sites in the central area had high averages. For example, the average for site 14 in Westlake Mall was relatively low at 4.0 ppm, although that for site 9, less than a block away, was over twice as high at 8.7 ppm. Average eight-hour values were lowest at site 20 in Occidental Park in the Pioneer Square area (the southwest portion of the study area) at 3.1 ppm. It is interesting to note that relatively low averages were observed for site 18 (4.2 ppm), site 35 (3.6 ppm), and site 21 (3.8 ppm) which are closer to I-5 than the other study sites, but are not on heavily travelled streets. (Site 35 is in a park).

### Maximum Day

Figure 14 shows the pattern of carbon monoxide concentrations in the study area on the day when the composite average of eight-hour values was highest - October 28, 1977. Most sites sampled on that day experienced their highest concentrations then (Table 4). On that day, the highest eight-hour concentration during the survey, 16.1 ppm, was observed at site 1. The second-highest value during the survey, 15.0 ppm at site 10, occurred on the same day and again on October 21. Maximums at three of the permanent monitors also occurred on October 28, 1977 (UNI - 12.8 ppm, SIN - 12.3 ppm, and FIR - 6.5 ppm).

Seventeen of the 29 study sites for which data were obtained on October 28, 1977, experienced eight-hour average concentrations above 9.0 ppm. This suggests a widespread problem, rather than a few isolated hot spots.

### Correlations Between Sites on Same Corridor

The relationships between carbon monoxide concentrations at sites along the same street corridor were of interest. Previous studies elsewhere have pointed out that substantial differences can exist between CO at sites in the same blocks on opposite sides of the street (cross-street pairs) when winds are across rather than along the street. Eight-hour averages for sites located along the same street corridor were analyzed by least squares regression to investigate any correlations between sites along the corridor. In most cases, correlations were weak or insignificant for fitting a linear first order equation ($y=A+B \times X$). Of the eight corridors examined -- First Avenue, Second Avenue, Third Avenue, Fourth Avenue, Sixth Avenue, Pike Street, James Street, and Alaskan Way -- only two had at least one pair of sites for which the square of the coefficient of correlation (R-SQ or index of determination) was greater than or equal to 0.75*. These were Pike Street and Sixth Avenue.

Results of the corridor analysis are summarized in Table 4. For the Pike Street corridor pair, sites 23 and 27, were about seven blocks apart and the index of determination was 0.88. The other pair, located along the Sixth Avenue corridor, consisted of sites 17 and 18 (also about seven blocks apart), with an index of 0.78.

In the case of both pairs, members of the pair were relatively far removed from each other (seven or more blocks), exhibiting dissimilar topographies, traffic patterns, and volumes, and orientation to meteorological factors.

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* R-SQ of 0.75 was picked as a screening level for all corridor pairs although the confidence interval varies with the number of observations. For 20 observations, the minimum value of R-SQ for signficance at the 95% confidence level is 0.19. For 10 observations, it is 0.40.

Table 4. Corridor Analysis

| Corridor | Site Pair | Relative Locations of Sites | Index (R-SQ)* |
|---|---|---|---|
| Pike Street | 23/27 | Seven blocks apart, east/west street | 0.88 |
| Sixth Avenue | 17/18 | Seven blocks apart, north/south street | 0.78 |

* The minimum value of the square of the correlation coefficient for significance at the 95% confidence level for ten data pairs would be about 0.40. This means that the confidence interval for R-SQ would not include zero for values equal to or greater than 0.40.

The correlations for these pairs, observed for the relatively abbreviated sampling interval of twenty days, may be unrelated to their being members of the same corridor.

## Permanent Monitors

Each day, the highest eight-hour average for 10:00 a.m. to 6:00 p.m. at the five permanent monitors in the downtown area was compared to the highest AVC at the study sites. The concentration at a permanent monitor was higher than at any study site on only two days of the study (Table 5). On most days, the maximum carbon monoxide average at the study site was less than 1.5 times that at the maximum permanent monitor, but on six days was over 1.5 times as great. On four of these six days, the value at the study site exceeded 9.0 ppm but no exceedence was observed at a permanent monitor.

TABLE 5. Comparison of Maximum Study Site Each Day and Permanent Monitors by Eight-Hour Averages for 10:00 a.m. to 6:00 p.m.

(CO in ppm)

| 1977 Date | Max Study Site | Max AVC | Max Perm Mon | Max AVS 1/ | Ratio 2/ AVC/AVS | Ratio AVC/JAM | Ratio AVC/UNI | Ratio AVC/SIN | Ratio AVC/PIK | Ratio AVC/FIR |
|---|---|---|---|---|---|---|---|---|---|---|
| 10/06/77 | 19 | 12.9 | UNI | 10.6 | 1.2 | 2.1 | 1.2 | 1.4 | 1.3 | 2.1 |
| 10/07/77 | 1 | 11.6 | JAM | 6.4 | 1.8 | 1.8 | 2.0 | 1.9 | 2.4 | 3.3 |
| 10/10/77 | 7 | 12.9 | JAM | 9.1 | 1.4 | 1.4 | 1.8 | 1.9 | - | 2.6 |
| 10/11/77 | 9 | 11.2 | PIK | 13.3 | .8 | 1.1 | 1.4 | 1.5 | .8 | 3.7 |
| 10/12/77 | 19 | 13.5 | PIK | 8.5 | 1.6 | 3.3 | - | - | 1.6 | - |
| 10/13/77 | 19 | 10.2 | PIK | 9.9 | 1.0 | 1.1 | 2.7 | 1.7 | 1.0 | - |
| 10/14/77 | 19 | 12.8 | PIK | 15.8 | .8 | 1.1 | 2.0 | 2.2 | .8 | - |
| 10/17/77 | 36 | 11.1 | UNI | 4.9 | 2.3 | - | 2.3 | - | - | - |
| 10/18/77 | 7 | 10.2 | UNI | 7.3 | 1.4 | 1.5 | 1.4 | 1.8 | 1.7 | - |
| 10/19/77 | 19 | 11.5 | PIK | 11.5 | 1.0 | 1.1 | 2.6 | 1.9 | 1.0 | - |
| 10/20/77 | 19 | 11.3 | UNI | 8.9 | 1.3 | 1.6 | 1.3 | .0 | 1.3 | 1.9 |
| 10/21/77 | 10 | 15.0 | PIK | 12.0 | 1.2 | 3.1 | 1.4 | 1.5 | 1.2 | - |
| 10/24/77 | 22 | 8.9 | PIK | 8.0 | 1.1 | 2.6 | 1.7 | 1.4 | 1.1 | 3.4 |
| 10/25/77 | 19 | 8.7 | FIR | 2.6 | 3.3 | - | - | - | - | 3.3 |
| 10/26/77 | 19 | 9.5 | PIK | 9.4 | 1.0 | - | 1.2 | 1.4 | 1.0 | 2.6 |
| 10/27/77 | 5 | 13.7 | SIN | 8.6 | 1.6 | - | - | 1.6 | 1.8 | - |
| 10/28/77 | 1 | 16.1 | PIK | 13.6 | 1.2 | - | 1.3 | 1.3 | 1.2 | 2.5 |
| 10/31/77 | 22 | 9.5 | PIK | 8.3 | 1.2 | - | 1.6 | 1.4 | 1.2 | 3.5 |
| 11/01/77 | 29 | 8.1 | PIK | 4.6 | 1.8 | - | 2.3 | - | 1.8 | 4.6 |
| 11/02/77 | 10 | 8.1 | PIK | 7.3 | 1.1 | - | 1.7 | 1.4 | 1.1 | 3.6 |

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1. Where AVS is the maximum eight-hour value (10:00 a.m. to 6:00 p.m.) of those for the five permanent monitors in the central business district.

2. Ratio of the maximum study site eight-hour value (10:00 a.m. to 6:00 p.m.) to the maximum of the permanent monitors.

Concentrations on Sixth Avenue south of Union Street (site 19) were higher than at any other study site on 8 of the 20 days for which comparisons were possible. However, on one of these days (October 14) at least one of the permanent monitors experienced higher concentrations. The only other day when the permanent monitor's eight-hour daily maximum* was higher than at any study site was October 11. Sites 1, 5, 7, 10, 19, 22, 29, and 36 were study sites which were "maximum" on at least one day considering both study sites and permanent monitors. Of these, site 19 was highest on 35% of the days; each of the sites 1, 7, 10, and 22 was highest on 10% of the days; and each of the remaining sites (5, 29 and 36) was highest on 5% of the days.

Review of the maximum study site each day (with respect to the eight-hour average) as compared to each of the permanent monitors gave an indication of how well each of the permanent monitors represented the highest CO levels in the study area for the 10:00 a.m. to 6:00 p.m. period. On this basis, the permanent monitor on the periphery of the study area (FIR the fire station on Second Avenue south of Main Street) was the poorest, as might be expected. The maximum study site concentrations for 10:00 a.m. to 6:00 p.m. always exceeded those at FIR, being 1.9 to 4.6 times as great. The permanent monitor on Fourth Avenue south of Pike (PIK) appeared to be the best since concentrations at the maximum study site were usually only 1.1 to 2.4 times as great. However, on two days, the maximum study site's AVC was somewhat less than the concentration at PIK (0.8 times as great).

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* For any eight consecutive hours.

Each day's average concentration for the eight-hour period 10:00 a.m. to 6:00 p.m. at each site was also compared to the average at each of the permanent monitors for the same day. For each site, the ratios of the study site value (AVC) to that of each of the permanent monitors (AVS) was computed for each day. These ratios are tabulated in Appendix C.

The average concentration and the ending hour of the daily maximum eight-hour average at the two SIP sites (JAM and UNI) and at the proposed SIP monitoring site (PIK) were also examined. Most of the time, the average for the maximum period during the day was no more than 1 ppm greater than the average for 10:00 a.m. to 6:00 p.m. This suggests that the selected study time was effective for comparing data from the study sites to the higher concentrations of the day at the permanent monitors.

## SUMMARY

The most important results from the outdoor site portion of the Seattle study are summarized below:

1. Only one site (site 1) experienced an eight-hour average from 10:00 a.m. to 6:00 p.m. (AVC) exceeding the highest AVS observed during the 20-day study for that period of the day at the permanent monitor on Fourth south of Pike. However, the highest AVC at each of six study sites exceeded the maximum AVS

at the Second and University monitor, 12.8 ppm, which was the next highest permanent monitor.

2. Concentrations of carbon monoxide were highest on First Avenue south of Pike Street (site 1) where the 10:00 a.m. to 6:00 p.m. average reached 16.1 ppm on October 14, nearly equal to the maximum at the permanent monitor on Fourth south of Pike, 15.8 ppm on October 28. The next highest eight-hour average (AVC) occurred on Fourth Avenue south of Union (site 10).

3. High concentrations of carbon monoxide were observed most frequently on Sixth Avenue south of Union (site 19) where the 9.0 ppm standard was exceeded on 80% of the sampled days.

4. On the day when the greatest composite average occurred, the majority of sampled sites (which were widespread through the study area) experienced eight-hour concentrations above 9.0 ppm, which is the standard not be exceeded more than once per year.

5. The maximum second-high eight-hour average concentration, 15.0 ppm, was at site 10 (Fourth south of Union) and exceeded the maximum second-highest value for any of the permanent monitors (13.6 ppm at the Pike Building).

## CONCLUSIONS AND RECOMMENDATIONS

Conclusions based on this 20-day study of outdoor sites in downtown Seattle are:

1. The magnitude of the carbon monoxide problem for the 10:00 a.m. to 6:00 p.m. period as measured by the maximum eight-hour average during the study at the study sites was adequately represented by the permanent monitor (PIK).

2. The CO problem was widespread throughout the downtown business district.

3. Data from the permanent monitoring network did not represent the highest frequency of exceedences of the 9.0 ppm standard within the study area.

It is recommended that:

1. The carbon monoxide problem in downtown Seattle be considered a widespread problem, as opposed to a few "hot spots".

2. Increased local source emissions should be avoided in areas where violations have been observed unless a reduction in the background concentrations which is more than sufficient to offset the increase can be demonstrated.

3. Concentrations at the permanent monitoring network above 9.0 ppm should be considered as indicative of concentrations equally high and possibly higher elsewhere in the study area. However, concentrations at the permanent monitors below the 9.0 ppm standard should not be considered as assurance that air quality standards are being met throughout the study area.

4. The permanent monitor on the east side of Fourth Avenue south of Pike Street should be considered as a candidate site to represent peak carbon monoxide concentrations in downtown Seattle for routine monitoring.

5. Planning for future studies to aid development and/or revision of control strategies to attain the standard should consider the need for ancillary data on traffic and meteorological characteristics to aid interpretation.

## INDOOR SITES

Although no standards exist for exposure of the general public to carbon monoxide in air within buildings, it is of interest to know what levels exist indoors*. Many people spend significant amounts of time inside. Consequently, the combined effects of exposure both indoors and outside deserve consideration for a significant portion of the population. Carbon monoxide levels indoors may be elevated at times due to non-vehicle sources (e.g., smoking tobacco, incomplete fuel combustion, etc.). However, several studies in various cities (including a DOE study in Seattle in 1976) have shown that even in the absence of such sources, high carbon monoxide concentrations indoors may occur when outside levels are high.

For each of five locations, a brief survey of indoor levels of carbon monoxide was conducted simultaneously with measurements of outside levels at a nearby site. This section outlines the methods and results of this study. Because only thirteen or fewer days of comparable data pairs were obtained at any location, statistical correlations with outdoor sites were not attempted although comparisons made possible by the limited data were reviewed.

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* Guidelines have been developed for ventilation air quality as ASHRAE Standard 62-73 which is used by architects and engineers. That standard for maximum allowable contaminant concentrations for ventilation air establishes an annual arithmetic average (17.5 ppm), and an eight-hour average not to be exceeded more than once per year (26 ppm). These and other standards are discussed in EPA-600/7-78-027, Survey of Indoor Air Quality Health Criteria and Standards, March 1978.

# METHOD OF STUDY

For two locations at a time, continuous monitoring equipment was placed indoors in an area remote from potential localized sources of carbon monoxide (such as cigarette smokers). Where possible, bag sampling units were also placed at these locations. However, at one location, only the bag sampling unit was used. Operation was during the same periods as for the outdoor sites; i.e., weekdays from 10:00 a.m. to 6:00 p.m. with bag samples from 10:00 a.m. to 2:00 p.m. (AM sample) and from 2:00 p.m. to 6:00 p.m. (PM sample). Determination of carbon monoxide by both methods provided an internal check on the data and a "back-up" to minimize periods of unmeasured levels. The bag sampling units were similar to those used outdoors.

## Site Selection

Figure 15 and Table 6 describe the locations of the indoor sites and adjacent outdoor sites. Sites included a pharmacy in a large medical building, a small retail store, two office locations and a hotel. The retail store and one of the office sites were in the same block as two of the permanent monitors.

Several factors were considered in site selection including: proximity to an outdoor study site, air intakes and ventilation, heating system (fuel combustion on premises), building uses, and size and height of the building. Within the building, the sampling equipment was placed to avoid tobacco smoke and provide convenient access for site attendants in areas normally used by the building occupants or in areas of air flow from normally used areas.

Table 6. Indoor Site Characteristics

| Site | Address | Business | Building Height | Sample Location | Exposed Population | 1977 Dates Sampled |
|---|---|---|---|---|---|---|
| SIN1 | Fourth South of Union (westside) | Medical Building | High | Floor 1 | Patients, Workers, Shoppers | 10/06 - 11/02 |
| SIN2 | Pike East of Fourth (southside) | Retail Shop | Low | Floor 1 | Shoppers, Workers | 10/06 - 11/02 |
| SIN3 | Pike East of Fourth (northside) | Bank | High | Floor 2 | Workers | 10/20 - 10/26 |
| SIN4 | Pike and Fourth (Southeast Corner) | Office Building | High | Floor 5 | Workers | 10/27 - 11/02 |
| SIN5 | Fifth South of Pine (east side) | Hotel | Medium | Floor 3 | Residents | 10/27 - 11/02 |

### Sample Collection and Analysis

For continuous monitoring, one of two modified Ecolyzers (Model 2100 with 0-100 ppm range) was used at each site with a 0-1 volt DC strip chart recorder (similar to those used to record analyses of bag samples for outdoor sites). The principal modification of the Ecolyzer was an automatic electronic zero at about once per hour. The sampling train consisted of a glass fiber particle filter, a granular charcoal filter, an interference filter assembly (manufacturer's standard), and a humidity bottle before the pump inlet. The analyzer was spanned with one of two certified primary standard carbon monoxide/air gas mixtures (20.3 or 20.0 ppm) and zeroed manually at least twice daily. After any necessary adjustments were made, the equipment was re-checked a minute or two later. Linearity was checked on each instrument and appeared to be generally satisfactory.

The indoor bag samples were collected and analyzed using the same type of equipment used for outdoor sites. During part of the survey, the contractor attended the continuous monitors, but did not reduce the strip chart records to average concentrations. EPA personnel also attended the indoor monitors, manually read each strip chart (tape), and calculated hourly average concentrations which were the basis for 4-hour AM and PM averages.

## RESULTS AND DISCUSSION

Two objectives of the indoor study were: 1) to compare concentrations indoors with those at adjacent outdoor sites; and 2) to determine the range of indoor concentrations experienced at various indoor sites. Because of the limited scope and duration of the sampling effort, indoor/outdoor comparisons were attempted for only two of the five sites. Indoor/outdoor comparisons of each site's eight-hour averages each day are shown in Appendix D. Figure 19 shows indoor/outdoor comparisons and the hourly averages for the day of the highest eight-hour average for which continuous analyzer records were available for the site sampled for the longest period (SIN1) to illustrate the daily patterns. (Concentrations were rounded to the nearest 0.5 ppm for plotting). Table 7 shows the range of concentrations at each indoor site. A summary of hourly data and bag sample data for each day is also contained in Appendix D.

One of the five indoor sites (SIN1) experienced carbon monoxide concentrations exceeding the outdoor eight-hour standard of 9.0 ppm. The highest eight-hour averages were about 1 to 3 ppm below the standard for SIN5, SIN4, and SIN2 (the hotel site, the office building, and the retail store). Concentrations measured at the bank site (SIN3) did not exceed about 3 ppm. The lowest measured eight-hour averages were about 2 ppm. The highest indoor CO eight-hour value occurred on a day when many outdoor sites were experiencing high concentrations. On Friday October 28, when the maximum eight-hour average (about 10 ppm) was observed at the medical building (SIN1), the adjacent outdoor site eight-hour average concentration was about 15 ppm. On this day, the indoor hourly average concentration rose slightly between 11:00 a.m. and noon, then dropped to its lowest level, about 8 ppm, between 3:00 p.m. and 4:00 p.m., before rising eventually to about 14 ppm (between 5:00 p.m. and 6:00 p.m.). Late afternoon increases were typically observed at this indoor site, with one of the most pronounced occurrences on the day of the second-highest eight-hour average (October 21, also a Friday). From a low of about 5 ppm between 2:00 and

Table 7. Range of Concentrations Observed at Seattle Indoor Sites[1]
(CO in ppm)

| Site | Location | AM Average<br>Minimum - Maximum | PM Average<br>Minimum - Maximum | 8-Hour Average<br>Minimum - Maximum |
|---|---|---|---|---|
| SIN1d | Medical | $3.0^{B}$ - $10.0^{B}$ | $2.7^{B}$ - $11.6^{T}$ | $2.8^{B}$ - $10.1^{B}$ |
| SIN2 | Retail Shop | $2.6^{B,T}$ - $10.1^{B}$ | $3.1^{T}$ - $7.5^{B}$ | $2.8^{T}$ - $8.8^{B}$ |
| SIN3 | Bank | $2.4^{T}$ - $3.8^{T}$ | $2.0^{T}$ - $3.5^{T}$ | $2.3^{T}$ - $3.2^{T}$ |
| SIN4 | Office Building | $3.2^{T}$ - $7.2^{T}$ | $4.4^{T}$ - $8.9^{T}$ | $4.2^{T}$ - $8.0^{T}$ |
| SIN5 | Hotel | $3.1^{B}$ - $7.7^{B}$ | $1.2^{B}$ - $5.0^{B}$ | $2.2^{B}$ - $6.1^{B}$ |

---

T - Based on tape record from a continuous analyzer

B - Based on bag sample

1. Sampling occurred over different days at these sites, so ranges are based on various numbers of samples (from three to 19 samples)

2. AM - 10:00 a.m. to 2:00 p.m.

3. PM - 2:00 p.m. to 6:00 p.m.

4. Eight-hour average - 10:00 a.m. to 6:00 p.m.

3:00 p.m., hourly average concentrations rose to about 18 ppm for the interval from 4:00 to 5:00 p.m., and decreased only slightly in the succeeding hour resulting in an eight-hour average of about 9 ppm. Such a pattern suggests that vehicle emissions were responsible for the late afternoon increase in CO within the medical building.

Figure 16 illustrates the comparison between indoor eight-hour averages at SIN1 and outdoor averages at site 10. On most days, the indoor concentration was more than 2 ppm lower than at the adjacent outdoor site. However, about 22 percent of the time indoor and outdoor concentrations were within 1 ppm.

Figure 17 illustrates data for the retail shop site (SIN2) and site 24, the nearest outdoor study site which was a few meters west of the permanent monitor on Pike Street east of Fourth Avenue. (The permanent monitor was closer than the study site to the building entrance and this entrance was probably the major ventilation). On the day when the highest indoor concentrations were observed (Friday, October 21), no continuous indoor monitor was operating at this location so the pattern of increase is unknown. On this day, indoor concentrations were also fairly high at the medical building site (SIN1 - previously discussed) and at other outdoor sites, which suggests a widespread phenomenon of higher emissions and/or less favorable meteorology for dispersion of pollutants.

Unfortunately, no indoor data were obtained for this site on October 28, the day when even higher concentrations occurred at many sites, including the maximum eight-hour average at site 24, the adjacent outdoor site. On

October 28, the eight-hour average at site 24 was 10.7 ppm. Indoor concentrations measured within the store on other days were always within plus or minus 2 ppm of those at site 24. Indeed, 73% of the time, the indoor eight-hour average was within 1 ppm of the outdoor value. This was not surprising, because it is thought that the major intake of air to this portion of the building was from the shop entrance located only a few meters from site 24.

Only three or four days of eight-hour average data were obtained at each of the other sites (SIN3, SIN4, and SIN5). Average concentrations indoors for the 10:00 a.m. to 6:00 p.m. period were lower than outdoors for all comparable samples except one (SIN5 at 2.2 ppm and site 15 at 1.4 ppm on 11/01/77). For the two sites sampled on October 28 (SIN4 and SIN5), their highest averages occurred on that day, which was a day of overall high values. Indoor values were each about 60% of the comparable outdoor site averages for the same eight-hour period.

## SUMMARY

The data strongly suggest a close relationship between increases in indoor concentrations and in outdoor concentrations nearby. For the selected pairs of study sites, the indoor concentrations for the 10:00 a.m. to 6:00 p.m. period were usually lower, occasionally nearly equal, and very rarely higher. At times, indoor concentrations may nearly equal or exceed the outdoor standard (sites SIN1 and SIN2). The late afternoon rise in indoor CO concentrations strongly suggests traffic emission influences as the principal cause.

## CONCLUSIONS AND RECOMMENDATIONS

The brief study in Seattle at paired outdoor and indoor sites with insignificant indoor generation of CO suggests the following conclusions:

1. Population exposure to carbon monoxide concentrations within buildings is likely to increase with increased traffic emissions of CO.
2. Frequently the changes in nearby outdoor concentrations are reflected by changes in indoor concentrations of CO. Concentrations are usually lower indoors.
3. The relationship of outdoor to indoor concentrations is not constant. It may vary from site pair to site pair and from day-to-day.
4. Indoors, the eight-hour average concentration of carbon monoxide may exceed 9.0 ppm at times.

The following recommendation is also based on the indoor/outdoor part of the study:

In assessing the total population exposure represented by an outdoor monitor the possibility of similar indoor concentrations within nearby buildings should be considered. (The variable relationship of outdoor to indoor levels should be kept in mind).

# PEDESTRIAN ROUTES

A minor effort to characterize breathing air of pedestrians within the Seattle central business area was also undertaken during the survey of outdoor sites. This section describes the method of study and discusses results. Because the sampling periods were variable (two to four hours long), data are not strictly comparable to data from the outdoor sites in most cases.

## METHOD OF STUDY

Two individuals were instructed to choose separate routes within a defined area of the city as an ordinary pedestrian might choose to do. These separate routes (designated "A" and "B") were generally within the area between Jackson and Stewart Streets and Sixth Avenue and Alaskan Way but included the Freeway Park east of Sixth Avenue. On most days, sub-areas were chosen such that route A was north of Spring Street and Route B was south of Spring Street. Each individual marked his/her exact route for each period on a map.

Carbon monoxide levels were obtained by bag sampling for two periods daily. The "AM" period was generally between 9:45 a.m. through 1:30 p.m.; the "PM" period was generally between 2:30 p.m. through 5:30 p.m. However, the length of the sampling period varied between two to four hours total since, on some days, walking samples were not collected during lunch or were not collected during the time when personnel were attending the outdoor stations. Time differences were due to the contractor's need of these same sampling personnel for other duties during the day. However, the study plan had been to collect samples along pedestrian routes at the same time that the outdoor stations were operating and this, if followed, would have facilitated data evaluations.

Data were obtained by bag sampling using the same type of pump employed at the stationary outdoor sites. An integrated air sample was obtained at a few inches below the breathing level as the person traversed the area. The pump filled a four-liter bag contained in a backpack. (Bags were of a five-layer material manufactured by Calibrated Instruments, Inc.) Individuals were permitted to spend short periods of time inside buildings, but instructed to avoid cigarette, pipe, and cigar smoke as these extraneous sources of carbon monoxide are unrelated to vehicular emissions. In some instances, the sample pump was turned off to avoid such smoke or simply turned off during lunch. Although locations, times, and routes were marked as the individual traversed the study area, review of the field records indicated frequent variations in the total sampling times. So, although the total length of the sampling period for any particular sample is less than four hours (frequently 2½ to 3 hours), averages were computed of the AM and PM samples as if they were of equal time duration; i.e., AAV and BAV are unweighted averages of their AM and PM components.

## RESULTS AND DISCUSSION

Correlations between Route A and Route B samples for morning (AAM and BAM), afternoon (APM and BPM), and combined averages of morning and afternoon samples (AAV and BAV) were examined. Data appear in Table 8.

There was a fair degree of correlation between the combined averages (Table 9) in view of the differences on each day between the time periods and sample routes. The linear regression equation for the daily combined average of morning and afternoon samples from Route A (AAV) expressed as a function of the daily combined average from Route B (BAV) explained about 70% of the variation in the data (square of the correlation coefficient = 0.70 for 16 pairs of samples). Correlations between routes for the same part of the day (AAM vs BAM and APM vs BPM) were greater than between parts of the day for the "same" route* (AAM vs APM and BAM vs BPM). This suggests that influences such as meteorological and traffic conditions varied between morning and afternoon in a less consistent manner than such influences varied within a particular two to four hour period in the morning (or afternoon) throughout the downtown area. The higher correlation of the combined averages also suggests that variations in carbon monoxide exposure to pedestrians who traverse this area of downtown Seattle depend more on the particular day (and, perhaps, individual) than upon the particular route.

Measured concentrations ranged from about 1.1 ppm (Route B - 10/25/77 AM sample) to 11.9 ppm (Route A - 10/28/77 - PM 3-hour sample). The averages of morning samples for Route A and Route B seldom differed by more than 1 ppm and exceeded 2 ppm on only two occasions on (10/17 - Route A at 6.3 ppm with Route B at 8.5 ppm; and on 10/31 - Route A at 7.7 ppm and

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* Routes traversed in the AM period for Route A were not identical to those in the PM sampling period for Route A, although they were in the same general sub-area. The same is true for Route B.

Table 8. Route A and Route B Sample Data

(Carbon Monoxide Concentrations in ppm)

| Day | Date | AAM | BAM | APM | BPM | AAV | BAV |
|---|---|---|---|---|---|---|---|
| 1 | 10/06/77 | - | - | - | - | - | - |
| 2 | 10/07/77 | - | 11.0 | 2.2 | 8.5 | - | 9.8 |
| 3 | 10/10/77 | 11.1 | 11.0 | 7.0 | 7.1 | 9.1 | 9.1 |
| 4 | 10/11/77 | 4.3 | 5.7 | 7.8 | 8.5 | 6.1 | 7.1 |
| 5 | 10/12/77 | 5.6 | 4.4 | 6.8 | 5.1 | 6.2 | 4.8 |
| 6 | 10/13/77 | 5.1 | 4.9 | 3.3 | 4.6 | 4.2 | 4.8 |
| 7 | 10/14/77 | 5.1 | 5.2 | 7.1 | 6.5 | 6.1 | 5.9 |
| 8 | 10/17/77 | 5.5 | 5.7 | 7.1 | 11.2 | 6.3 | 8.5 |
| 9 | 10/18/77 | 6.9 | 7.5 | - | - | - | - |
| 10 | 10/19/77 | 6.0 | 5.9 | 7.4 | 7.5 | 6.7 | 6.7 |
| 11 | 10/20/77 | - | 5.9 | 5.3 | 6.4 | - | 6.2 |
| 12 | 10/21/77 | 5.5 | 4.0 | 5.5 | 5.2 | 5.5 | 4.6 |
| 13 | 10/24/77 | 6.3 | 4.3 | 1.3 | 2.5 | 3.8 | 3.4 |
| 14 | 10/25/77 | 4.0 | 1.1 | 4.9 | 6.9 | 4.5 | 4.0 |
| 15 | 10/26/77 | 4.5 | 4.2 | 4.9 | 6.6 | 4.7 | 5.4 |
| 16 | 10/27/77 | 8.2 | 9.0 | 6.5 | 6.1 | 7.4 | 7.6 |
| 17 | 10/28/77 | 6.4 | 7.3 | 11.9 | 10.2 | 9.1 | 8.8 |
| 18 | 10/31/77 | 9.0 | 3.9 | 6.4 | 5.0 | 7.7 | 4.5 |
| 19 | 11/01/77 | 2.2 | 1.4 | 2.3 | 2.0 | 2.2 | 1.7 |
| 20 | 11/02/77 | 2.0 | 2.1 | 4.0 | 5.3 | 3.0 | 3.7 |

Note: Samples were of two to four hours duration for AAM, BAM, APM, and BPM.

AAM - Route A "morning" sample
BAM - Route B "morning" sample
APM - Route A afternoon sample
BPM - Route B afternoon sample
AAV - Unweighted average of AAM and APM
BAV - Unweighted average of BAM and BPM

Table 9 . Regression Equations For Pedestrian Data

| Relationship | | No. of Data Pairs | Index[1] R-SQ | 95% CI[2] R-SQ | 95% CI A | 95% CI B |
|---|---|---|---|---|---|---|
| No. | Regression Eq. | | | | | |
| 1 | AAM = 3.7 + .33 x APM | 16 | .13 | N.S.[3] | 2.5 - 4.9 | 0.3 - 0.2 |
| 2 | BAM = 1.7 + .58 x BPM | 18 | .23 | .02 - .59 | .4 - 2.9 | 0.02 - 1.1 |
| 3 | AAM = 2.2 + .69 x BAM | 17 | .62 | .25 - .84 | 1.4 - 2.9 | 0.4 - 1.0 |
| 4 | APM = 1.1 + .71 x BPM | 18 | .43 | .08 - .73 | 0.1 - 2.1 | 0.3 - 1.1 |
| 5. | AAV = 1.4 + .78 x BAV | 16 | .70 | .35 - .89 | 0.8 - 2.0 | 0.5 - 1.1 |

---

[1] The square of the correlation coefficient, R-SQ, for the linear regression equation.

[2] The values for the 95% confidence intervals for R-SQ were interpolated from a table of confidence intervals for R and based on the number of data pairs used for formulation of the regression equation.

[3] N.S. - Not significant. The 95% CI includes zero.

Note: AAM - Morning samples on Route A
BAM - Morning samples on Route B
APM - Afternoon samples on Route A
BPM - Afternoon samples on Route B
AAV - Average of AAM and APM
BAV - Average of BAM and BPM

Samples were not constant duration from day to day.

Route B at 4.5 ppm.). This suggests examination of whether individual behavior patterns in traversing the area have relatively little effect on the carbon monoxide exposures.

It should be remembered that the pedestrian samples were not always collected during the evening peak traffic. Unfortunately, the variability in sampling times in this part of the study did not permit easy comparisons. Consistent sampling times would have been possible if a minimum of two persons and four pumps had been allocated on a full-time basis to conduct this pedestrian exposure study of two routes. Sampling periods should have been fixed from day-to-day and routes well-defined in advance as to the amount of time to be spent in a certain area.

For the pedestrian data from the October - November 1977 survey, the most important conclusions are:

1. For sampling periods ranging from about two to four hours, the carbon monoxide exposures of individuals acting as ordinary pedestrians varied from 1.1 ppm to 11.9 ppm.

2. On some days the average carbon monoxide exposure for a four-hour period may exceed 9.0 ppm for a pedestrian visiting buildings in the downtown area. This is suggested by averages above 9.0 ppm for sampling periods of two to four hours on each of three days (10/10, 10/17, and 10/28).

# RECOMMENDATIONS

1. If pedestrian exposure is again studied using small pumps and bags, data should be obtained in late fall or winter. Periods of expected traffic congestion from Christmas shopping should be examined as values would be expected to be high.

2. Such a study should attempt to characterize carbon monoxide concentrations on a one-hour (clock-hour basis) so that data may be correlated with the state's permanent monitors. A consecutive eight hours should be examined each day.

3. Routes should be well-defined in advance both as to location and total sampling duration while traversing the route. This will eliminate these factors as variables.

4. Field crew records should be checked daily for completeness and accuracy by the field manager.

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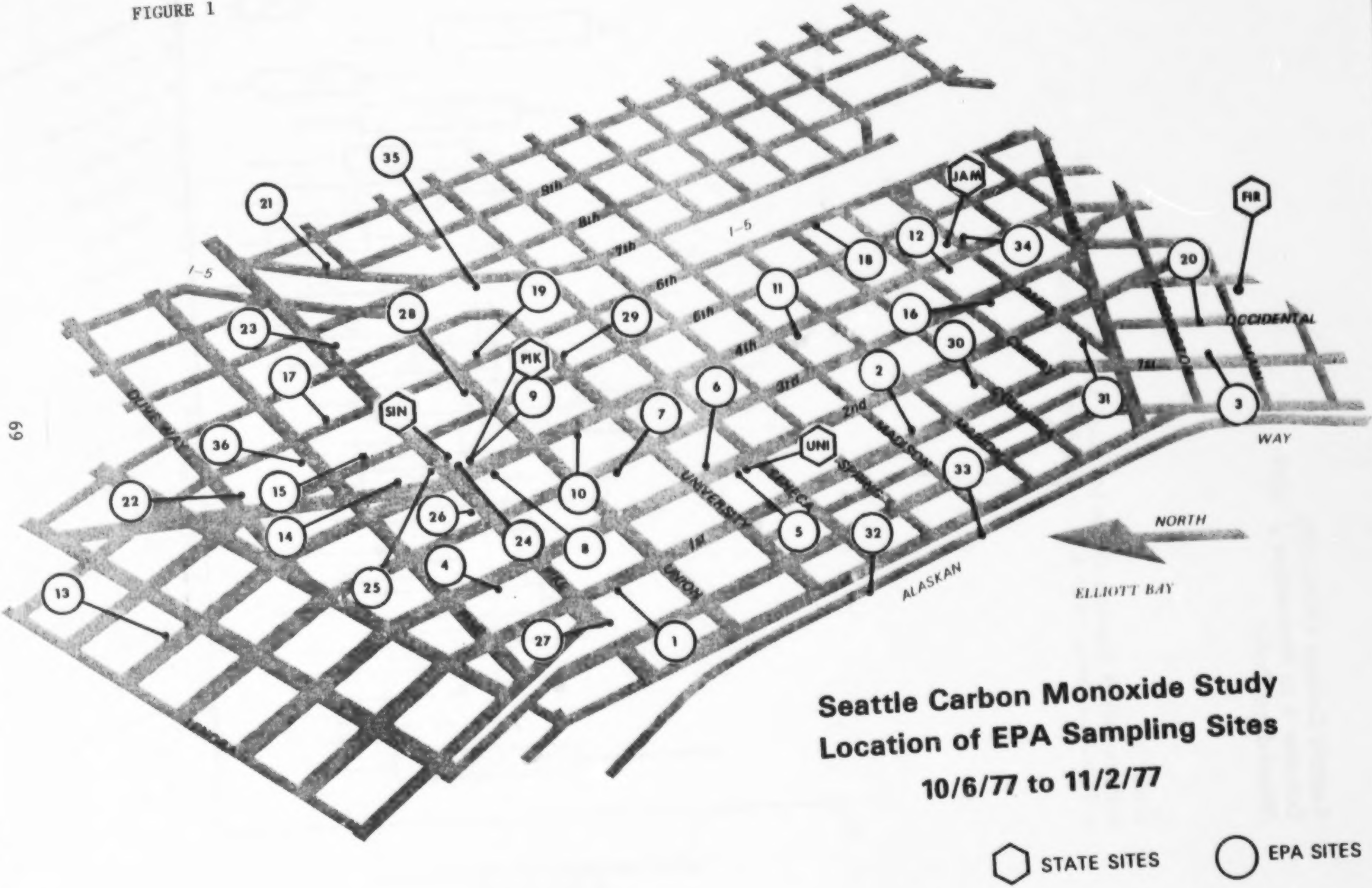
SEATTLE CO STUDY - Oct. 6 to Nov. 2, 1977

SITE IDENTIFICATION

| SITE # | LOCATION | SIDE OF STREET |
|---|---|---|
| 1 | 1st s/o Pike | W |
| 2 | 1st s/o Madison | E |
| 3 | 1st s/o Washington | E |
| 4 | 2nd s/o Pine | W |
| 5 | 2nd s/o University | W |
| 6 | 2nd s/o University | E |
| 7 | 3rd s/o Union | W |
| 8 | 4th s/o Pike | W |
| 9 | 4th s/o Pike | E |
| 10 | 4th s/o Union | W |
| 11 | 4th s/o Madison | W |
| 12 | 4th s/o Cherry | W |
| 13 | 4th s/o Lenora | E |
| 14 | 4th s/o Pine | E |
| 15 | 5th s/o Pine | E |
| 16 | 3rd s/o Cherry | W |
| 17 | 6th s/o Pine | E |
| 18 | 6th s/o Columbia | W |
| 19 | 6th s/o Union | E |
| 20 | Occidental s/o Washington | S |
| 21 | 9th s/o Union | E |
| 22 | Olive e/o 5th | S |
| 23 | Pike e/o 7th | S |
| 24 | Pike e/o 4th | S |
| 25 | Pike e/o 4th | N |
| 26 | Pike e/o 3rd | N |
| 27 | Pike w/o 1st | S |
| 28 | Union e/o 5th | N |
| 29 | University e/o 5th | S |
| 30 | Columbia e/o 1st | N |
| 31 | James e/o 1st | N |
| 32 | Alaskan Way s/o University | W |
| 33 | Alaskan Way s/o Madison | W |
| 34 | James e/o 4th | S |
| 35 | Seneca e/o 6th | N |
| 36 | Pine e/o 5th | N |
| PERMANENT MONITORS | (STATE SITES) | |
| JAM | JAMES E/O 4TH | N |
| UNI | 2ND S/O UNIVERSITY | W |
| SIN | PIKE E/O 4TH | S |
| PIK | 4TH S/O PIKE | E |
| FIR | 2ND S/O MAIN | W |

FIGURE 1


8th
8th
7th
6th
5th
4th
3rd
2nd
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I-5
OCCIDENTAL
MADISON
MADISON
SPRING
SENECA
UNIVERSITY
UNION
PIKE
DENNY WAY
ALASKAN
WAY
NORTH
ELLIOTT BAY
FIR
JAM
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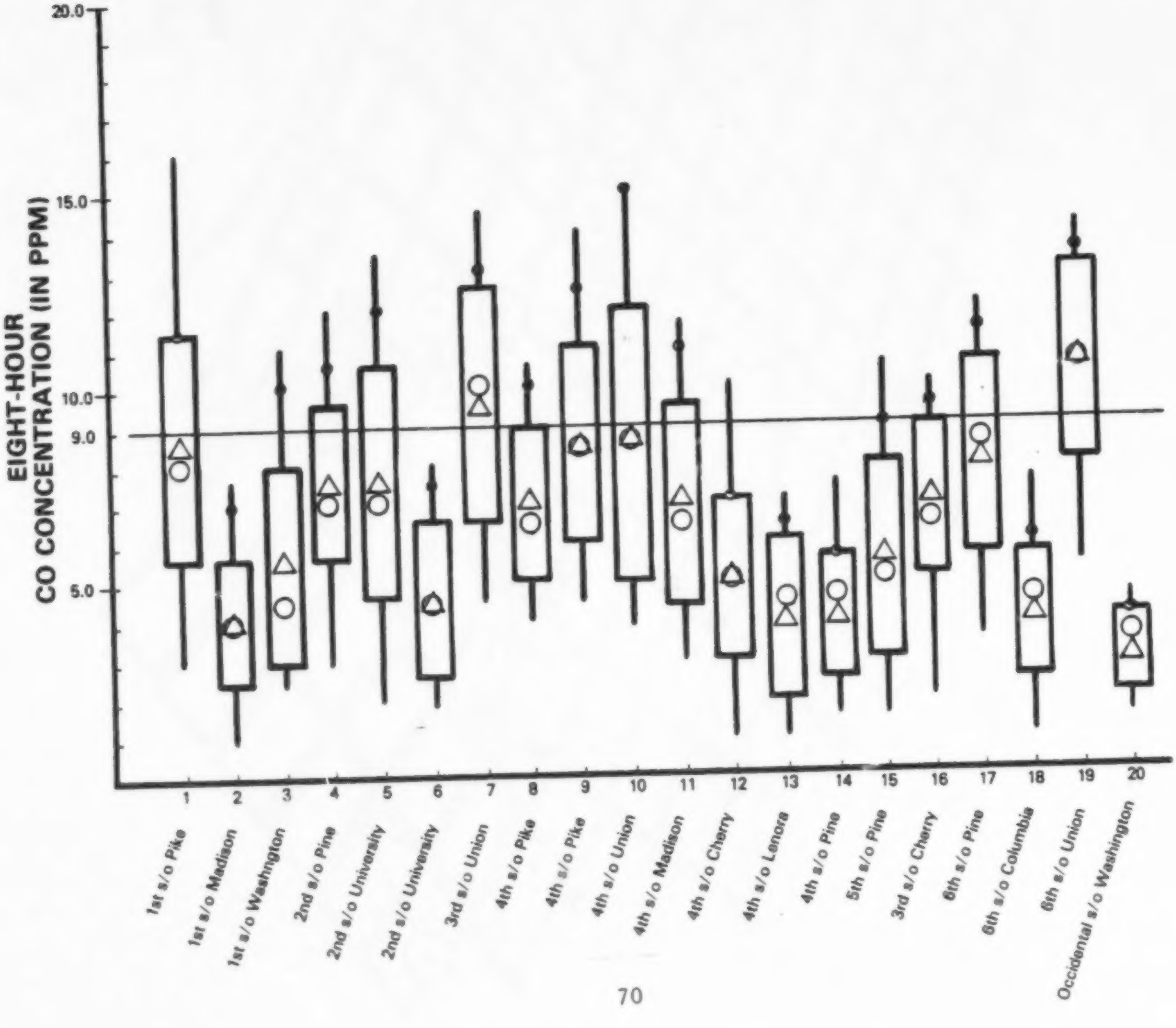
**Seattle Carbon Monoxide Study**
**Location of EPA Sampling Sites**
**10/6/77 to 11/2/77**

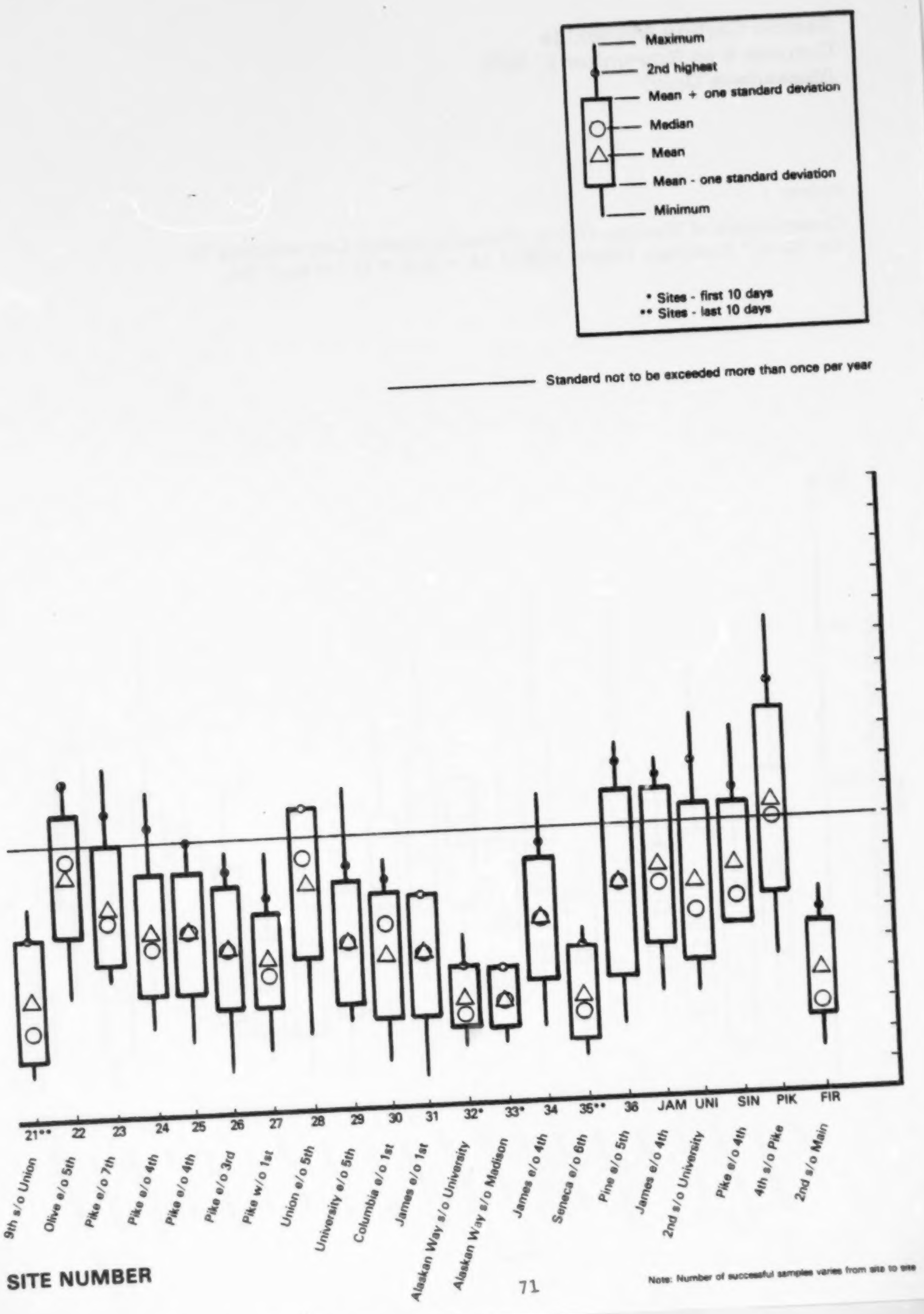
⬡ STATE SITES ○ EPA SITES

## Seattle Carbon Monoxide
## October 6 to November 2, 1977
## (Weekdays Only)

FIGURE 2

Characteristics of Weekday Carbon Monoxide Average Concentrations for an Eight-Hour Period (10:00 A.M. to 6:00 P.M.) at Each Site.



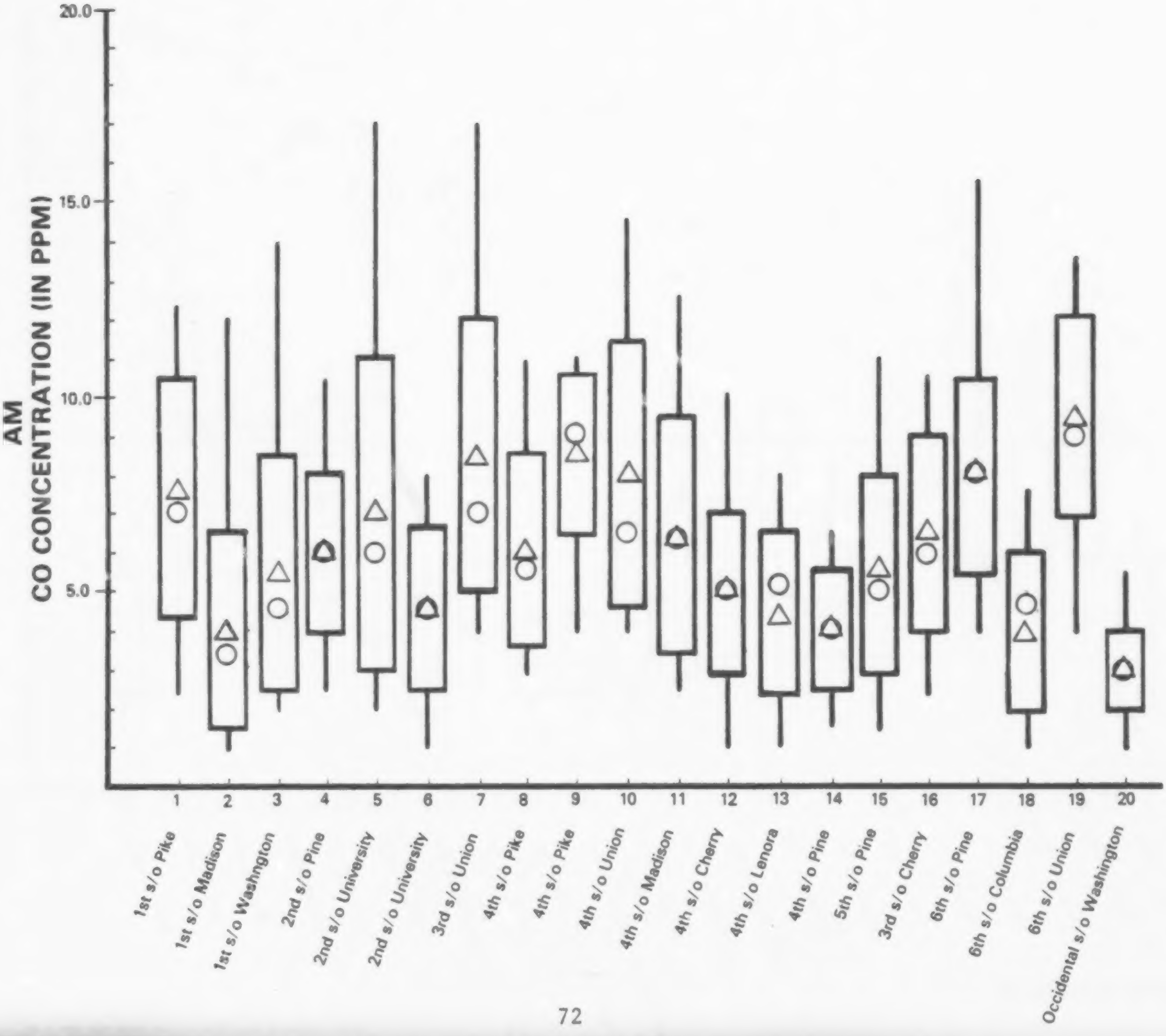


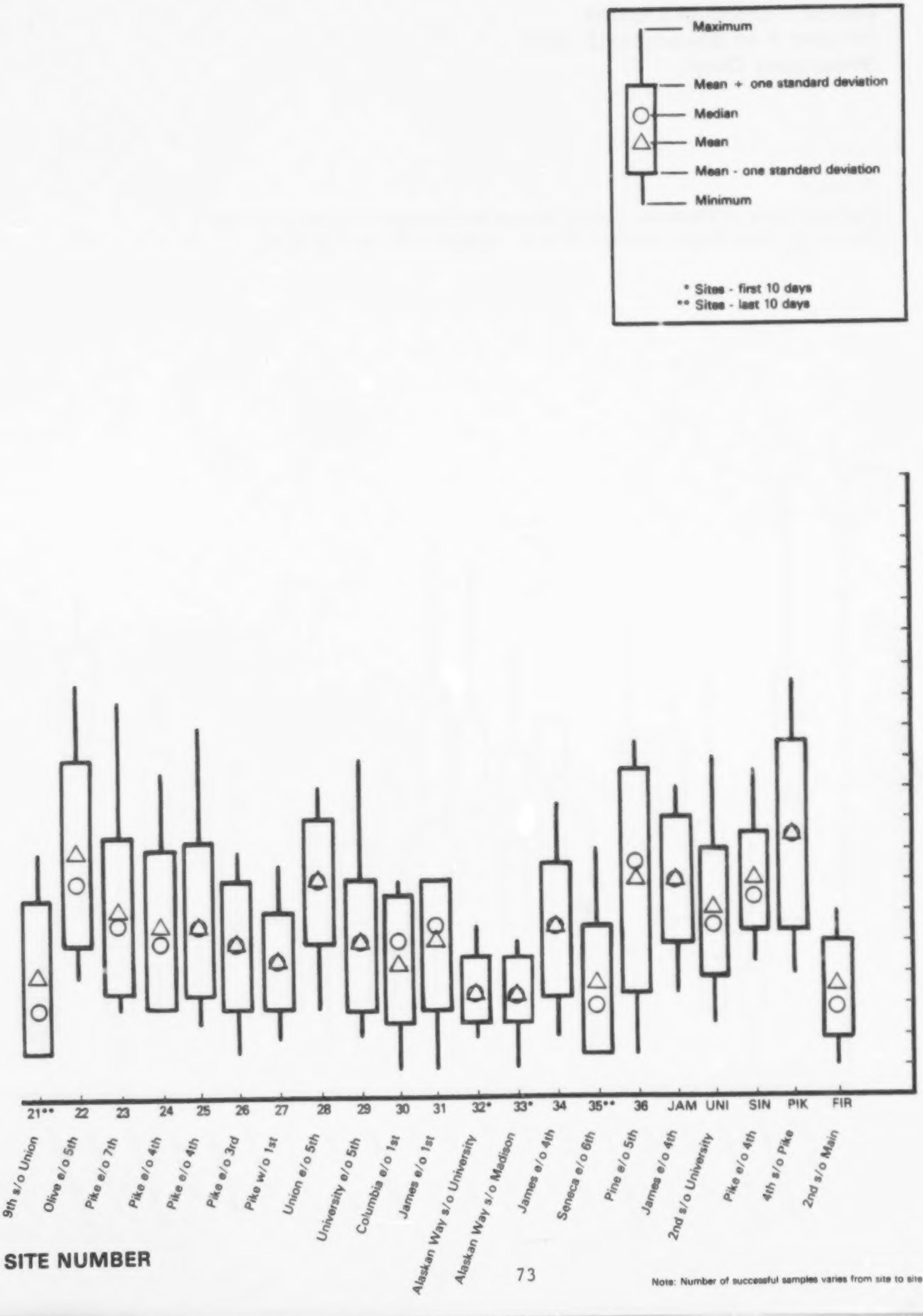
Note: Number of successful samples varies from site to site

## Seattle Carbon Monoxide
## October 6 to November 2, 1977
## (Weekdays Only)

FIGURE 3

Characteristics of Weekday Carbon Monoxide Average Concentrations for the "A.M." Four-Hour Period (10:00 A.M. to 2:00 P.M.) at Each Site.



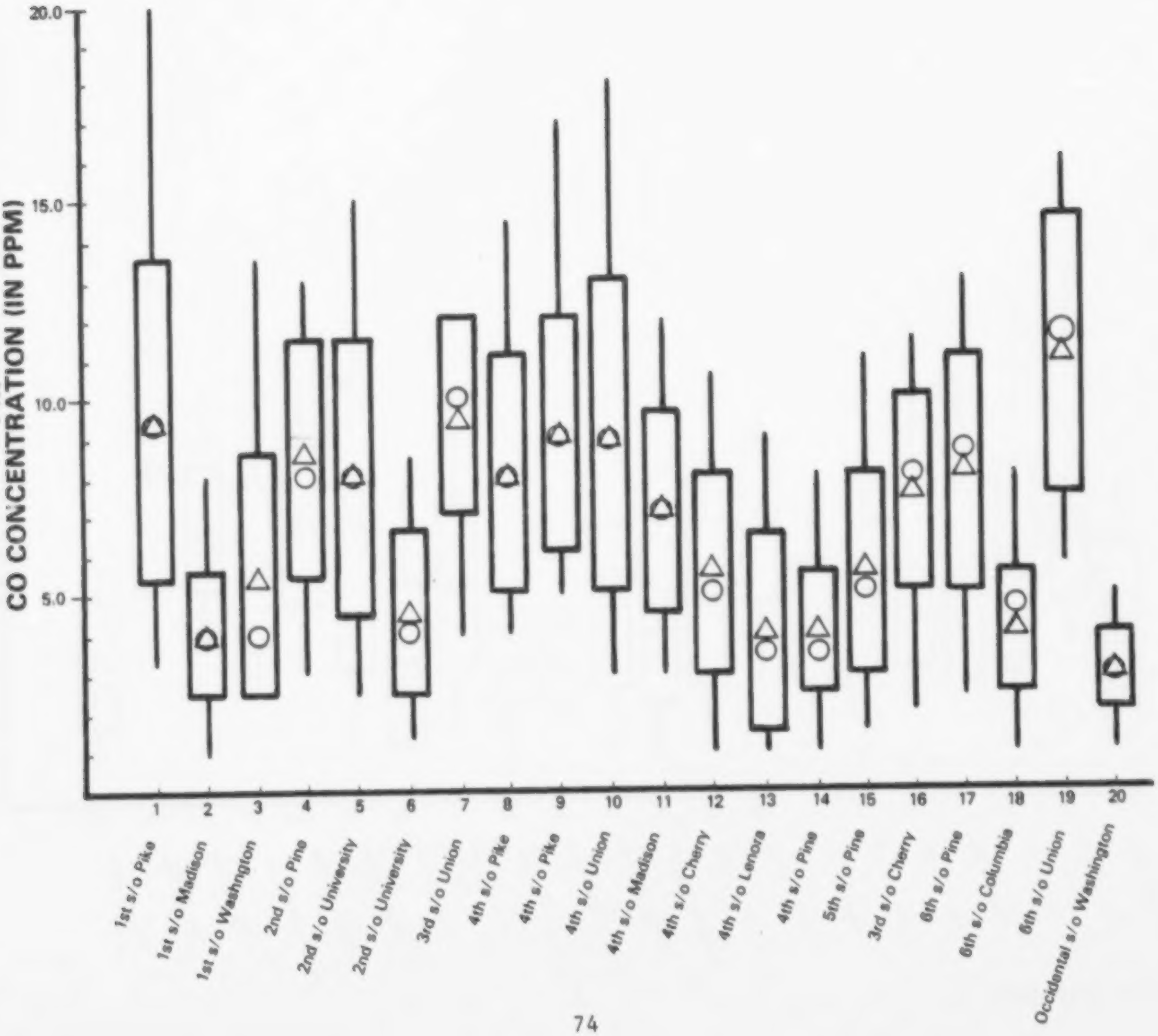


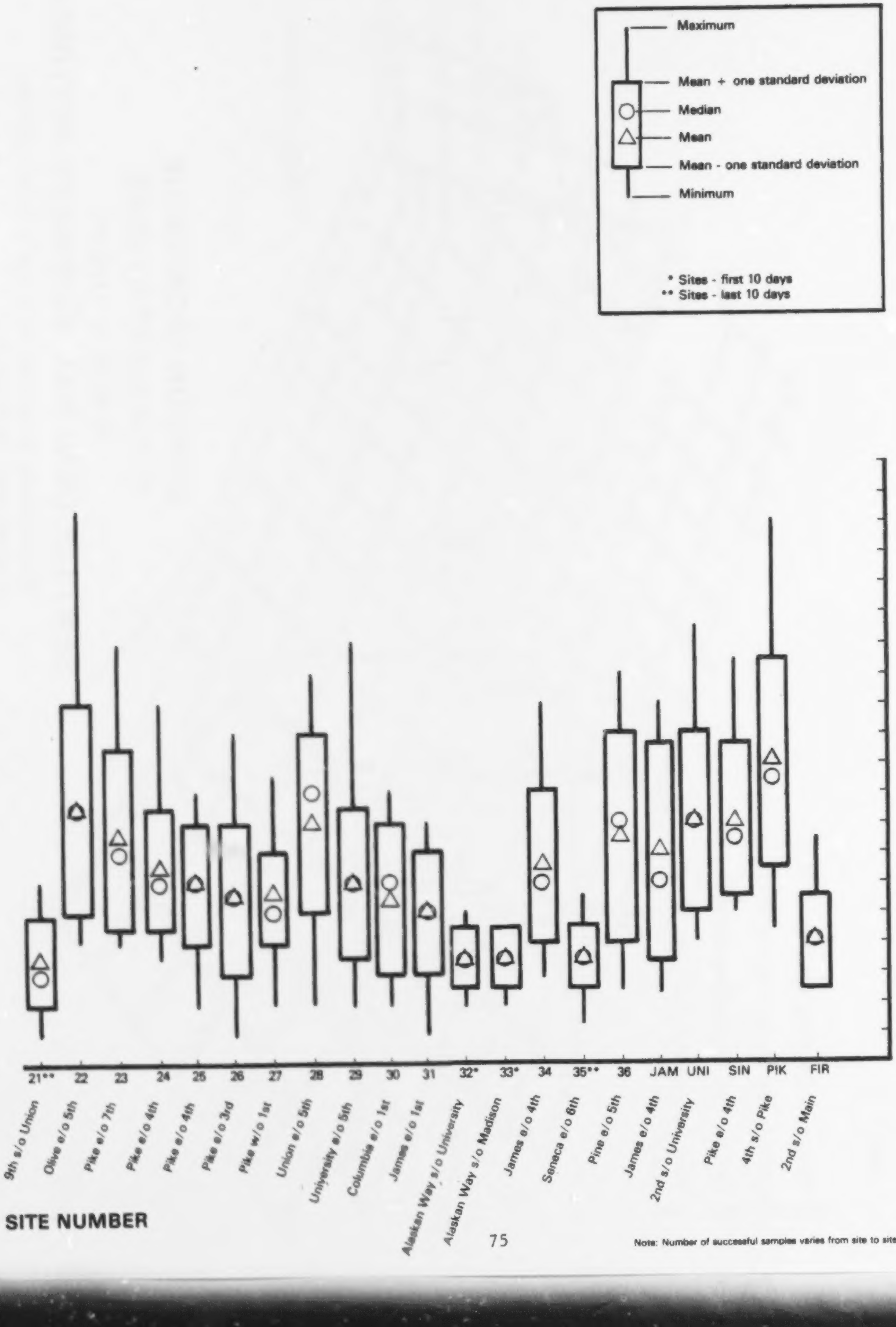
Note: Number of successful samples varies from site to site

## Seattle Carbon Monoxide
## October 6 to November 2, 1977
## (Weekdays Only)

FIGURE 4

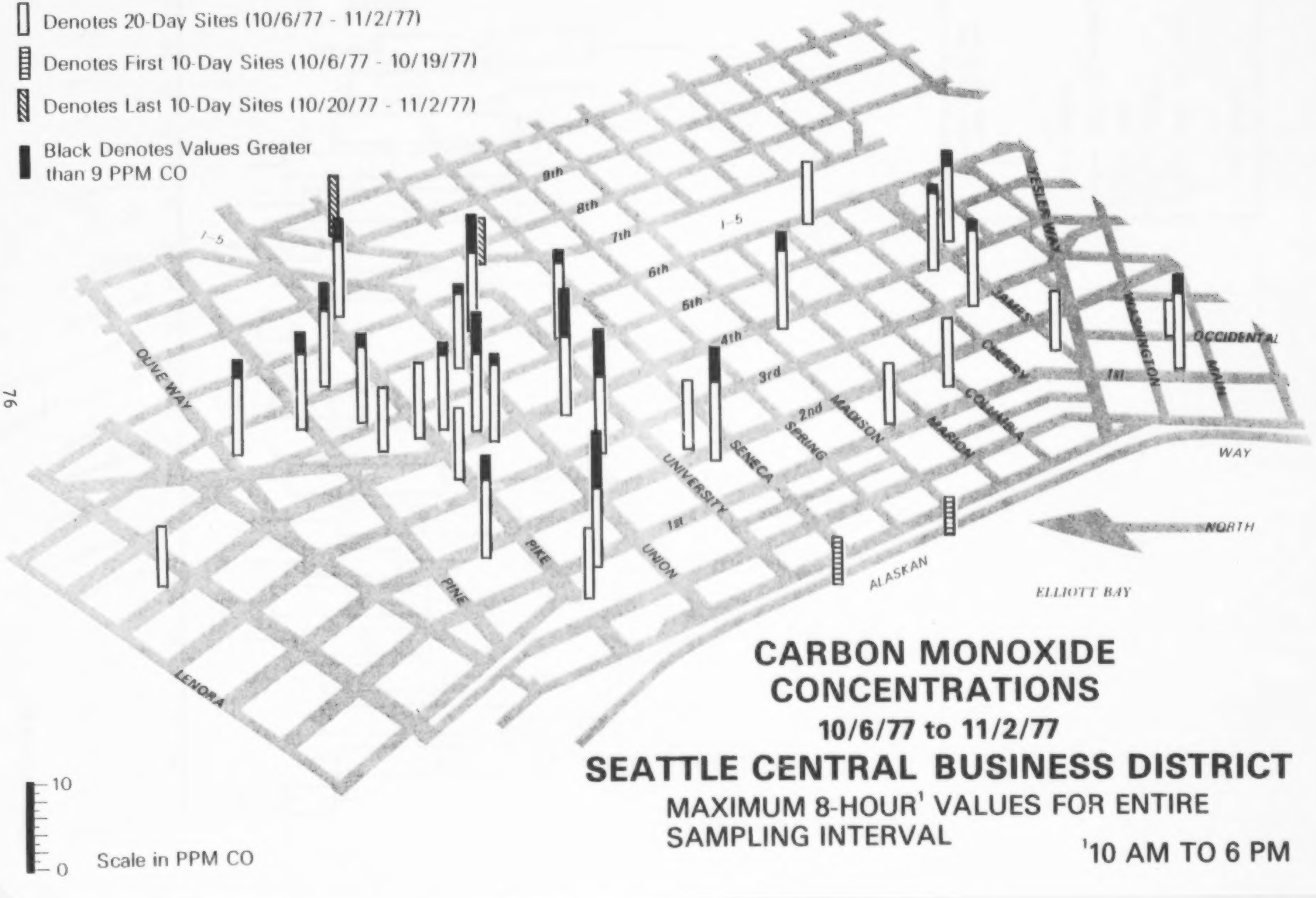
Characteristics of Weekday Carbon Monoxide Average Concentrations for the "P.M." Four-Hour Period (2:00 P.M. to 6:00 P.M.) at Each Site.





Note: Number of successful samples varies from site to site

FIGURE 5

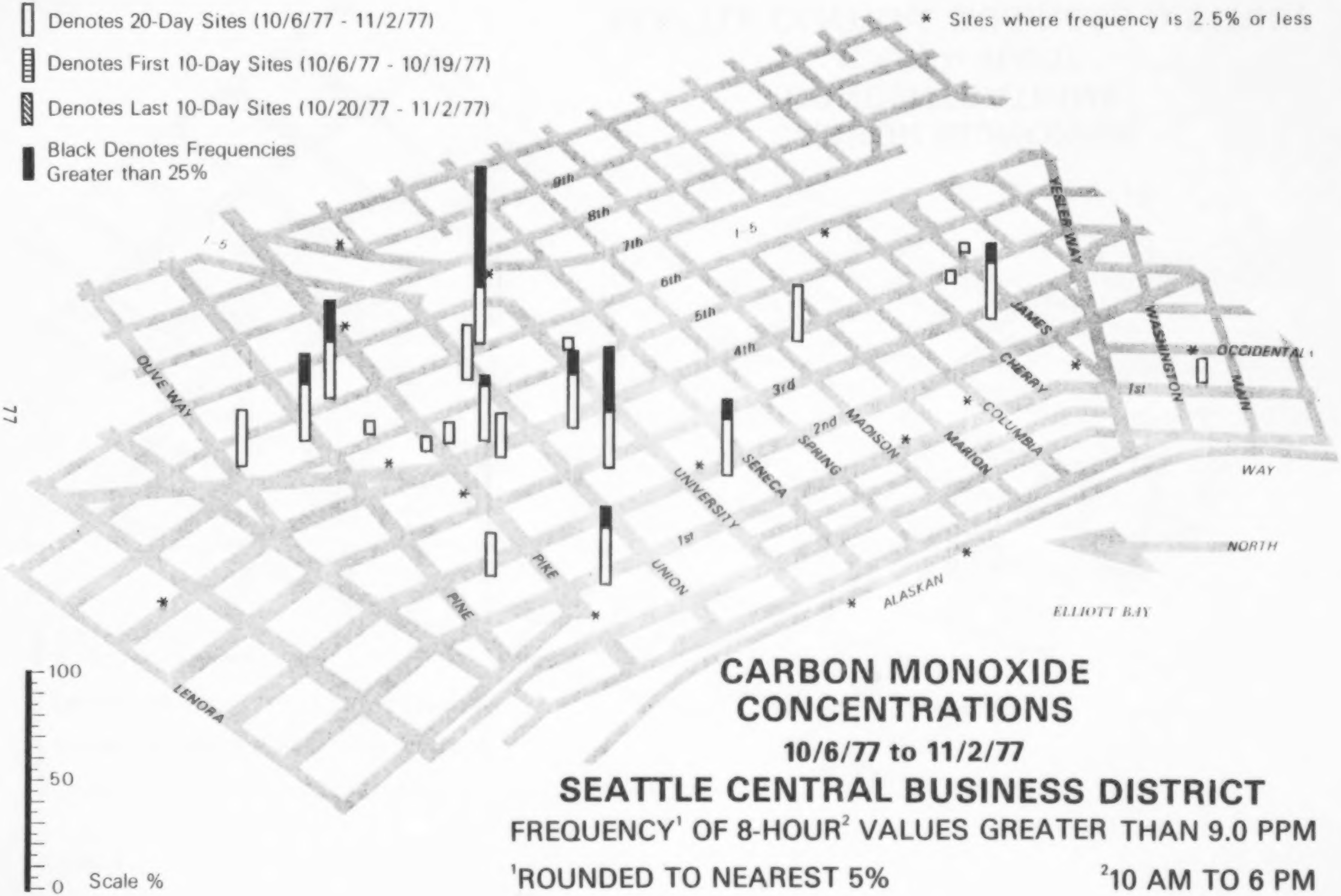


▯ Denotes 20-Day Sites (10/6/77 - 11/2/77)
▤ Denotes First 10-Day Sites (10/6/77 - 10/19/77)
▨ Denotes Last 10-Day Sites (10/20/77 - 11/2/77)
▮ Black Denotes Values Greater than 9 PPM CO
9th
8th
7th
6th
5th
4th
3rd
2nd
1st
I–5
I–5
YESLER WAY
JAMES
CHERRY
COLUMBIA
MARION
MADISON
SPRING
SENECA
UNIVERSITY
UNION
PIKE
PINE
OLIVE WAY
LENORA
WASHINGTON
MAIN
OCCIDENTAL
1st
WAY
NORTH
ALASKAN
ELLIOTT BAY
10
0
Scale in PPM CO

CARBON MONOXIDE
CONCENTRATIONS
10/6/77 to 11/2/77
SEATTLE CENTRAL BUSINESS DISTRICT
MAXIMUM 8-HOUR[1] VALUES FOR ENTIRE
SAMPLING INTERVAL

[1] 10 AM TO 6 PM

FIGURE 6


▯ Denotes 20-Day Sites (10/6/77 - 11/2/77)
▤ Denotes First 10-Day Sites (10/6/77 - 10/19/77)
▨ Denotes Last 10-Day Sites (10/20/77 - 11/2/77)
▮ Black Denotes Frequencies Greater than 25%
* Sites where frequency is 2.5% or less
9th
8th
7th
6th
5th
4th
3rd
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1st
I-5
I-5
OLIVE WAY
LENORA
PINE
PIKE
UNION
UNIVERSITY
SENECA
SPRING
MADISON
MARION
COLUMBIA
CHERRY
JAMES
YESLER WAY
WASHINGTON
MAIN
OCCIDENTAL
1st
WAY
NORTH
ALASKAN
ELLIOTT BAY
100
50
0
Scale %

## CARBON MONOXIDE CONCENTRATIONS

**10/6/77 to 11/2/77**

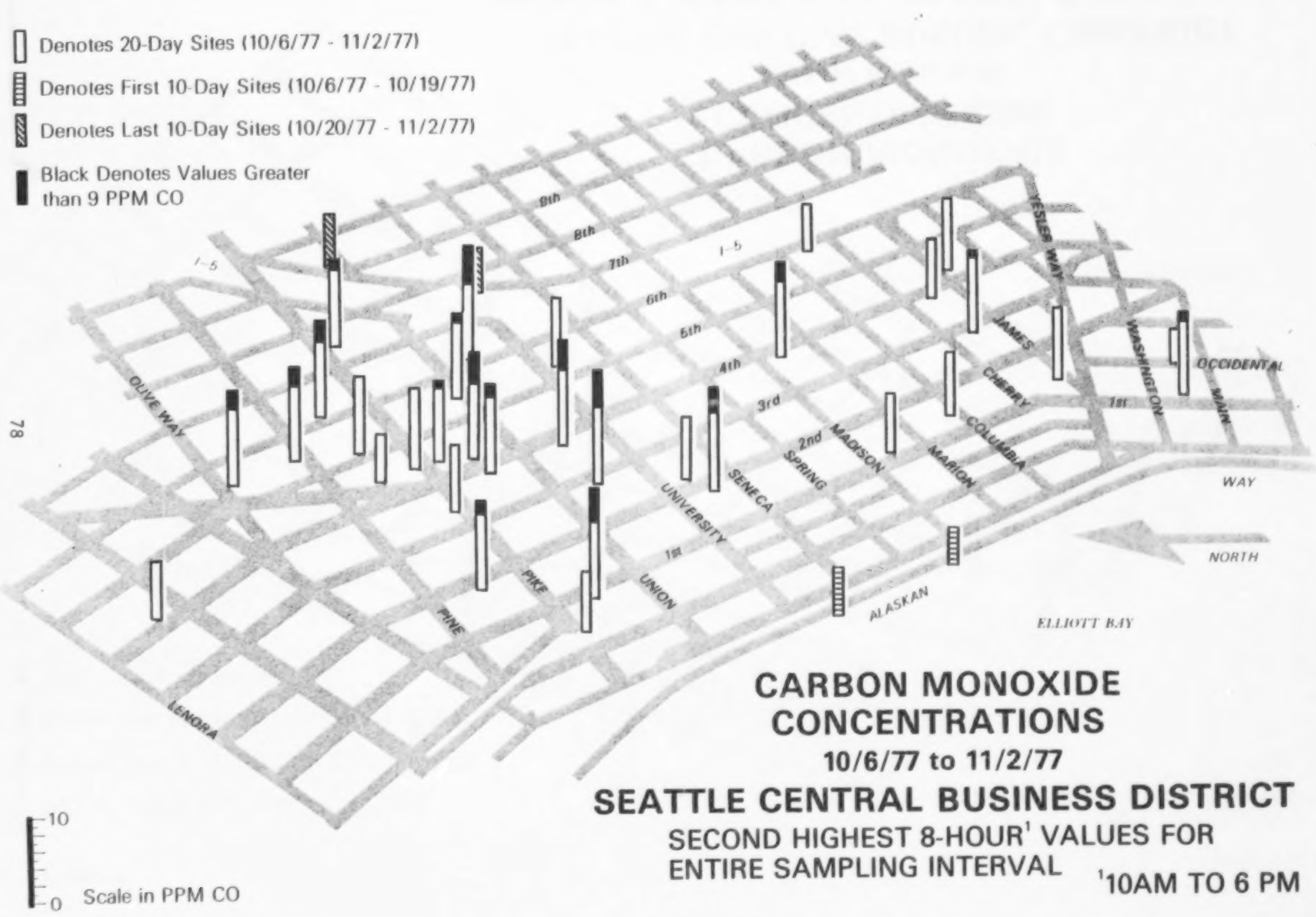
## SEATTLE CENTRAL BUSINESS DISTRICT

FREQUENCY[1] OF 8-HOUR[2] VALUES GREATER THAN 9.0 PPM

[1] ROUNDED TO NEAREST 5%

[2] 10 AM TO 6 PM

FIGURE 7


▯ Denotes 20-Day Sites (10/6/77 - 11/2/77)
▤ Denotes First 10-Day Sites (10/6/77 - 10/19/77)
▨ Denotes Last 10-Day Sites (10/20/77 - 11/2/77)
■ Black Denotes Values Greater than 9 PPM CO
I-5
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8th
7th
6th
5th
4th
3rd
2nd
1st
I-5
OLIVE WAY
LENORA
PINE
PIKE
UNION
UNIVERSITY
SENECA
SPRING
MADISON
MARION
COLUMBIA
CHERRY
JAMES
YESLER WAY
WASHINGTON
MAIN
OCCIDENTAL
1st
WAY
NORTH
ALASKAN
ELLIOTT BAY
10
0
Scale in PPM CO

CARBON MONOXIDE CONCENTRATIONS

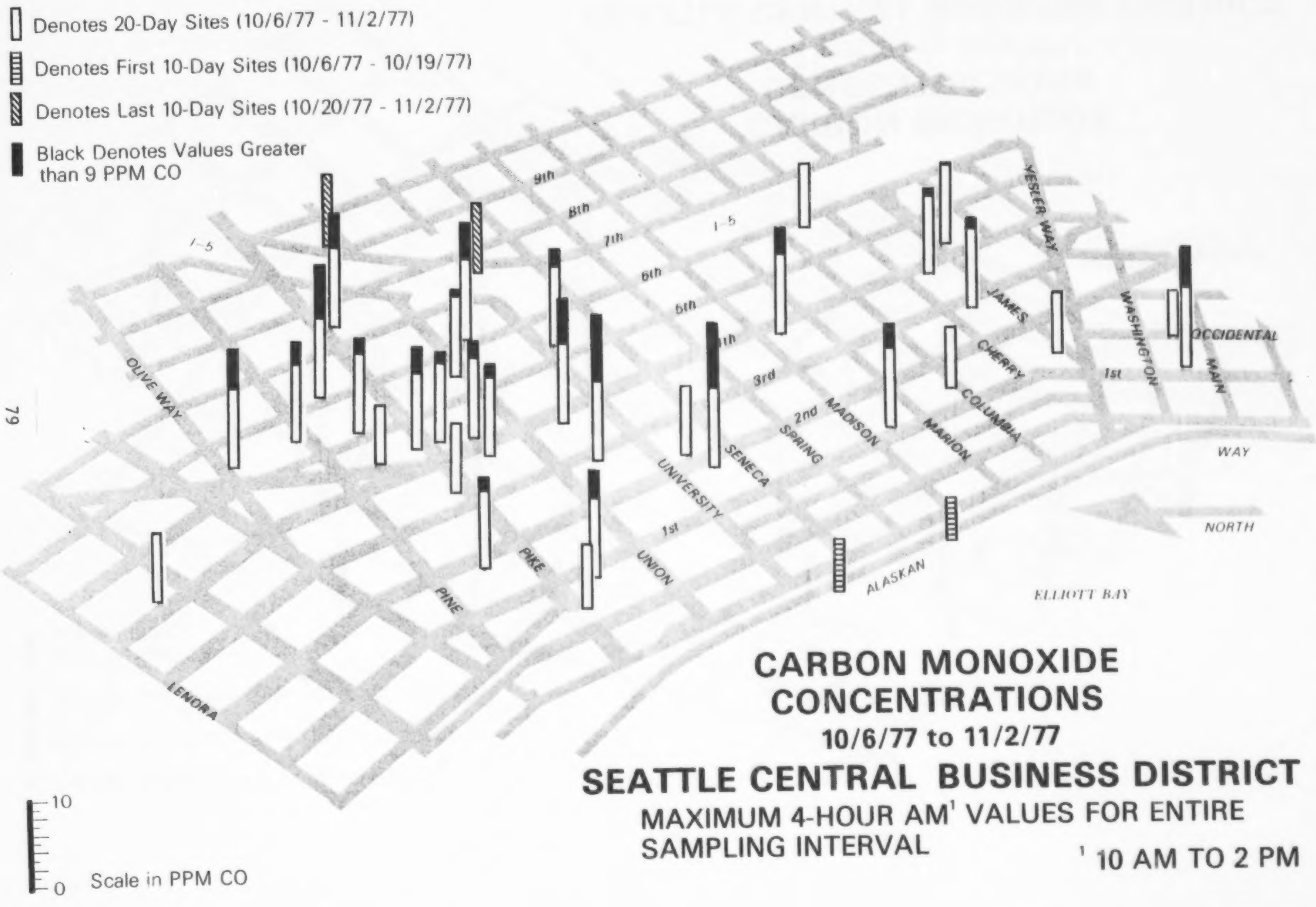
10/6/77 to 11/2/77

SEATTLE CENTRAL BUSINESS DISTRICT

SECOND HIGHEST 8-HOUR[1] VALUES FOR ENTIRE SAMPLING INTERVAL

[1] 10AM TO 6 PM

FIGURE 8


▯ Denotes 20-Day Sites (10/6/77 - 11/2/77)
▥ Denotes First 10-Day Sites (10/6/77 - 10/19/77)
▨ Denotes Last 10-Day Sites (10/20/77 - 11/2/77)
▮ Black Denotes Values Greater than 9 PPM CO
9th
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3rd
2nd
1st
I-5
I-5
OLIVE WAY
LENORA
PINE
PIKE
UNION
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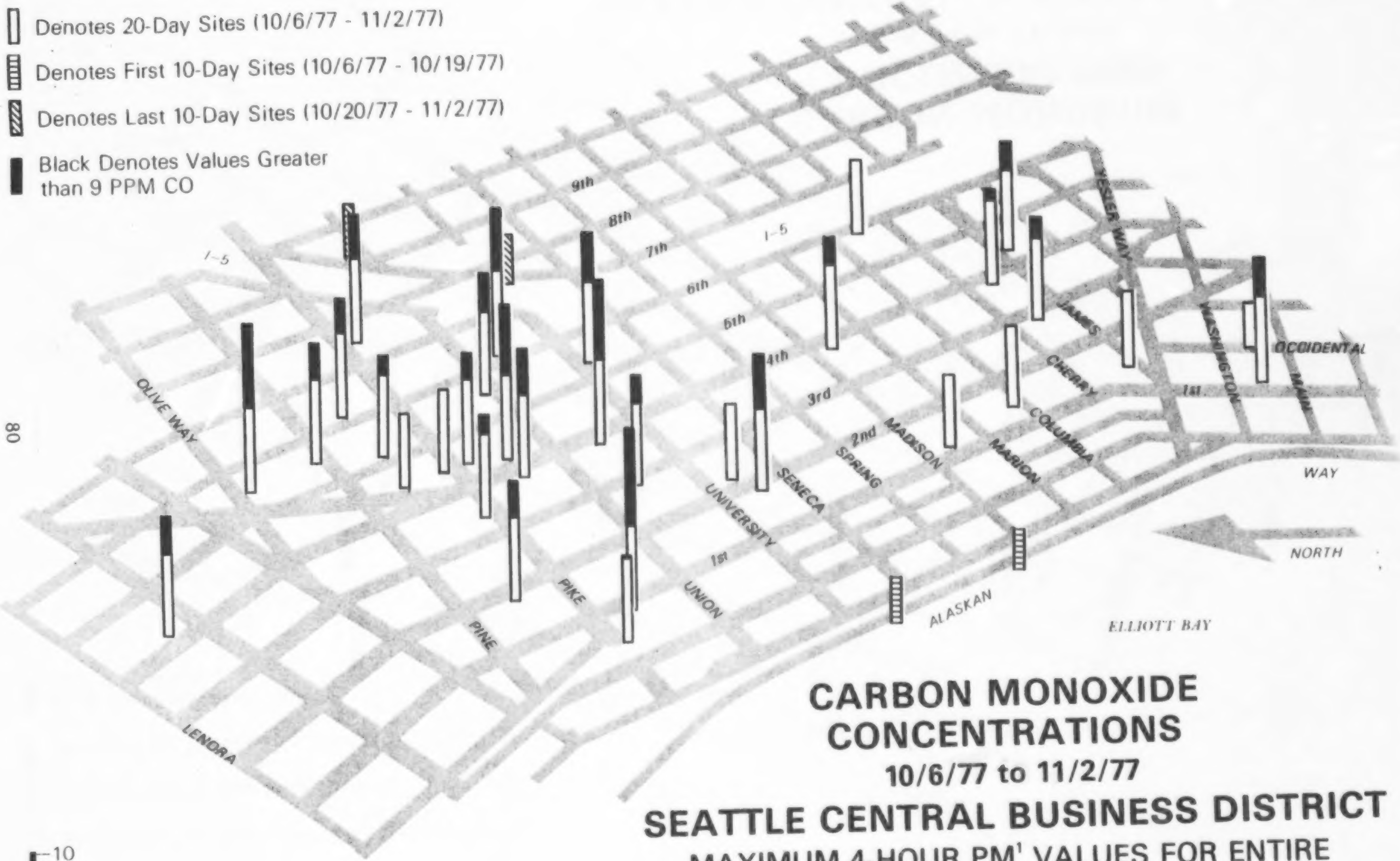
CHERRY
JAMES
YESLER WAY
WASHINGTON
1st
OCCIDENTAL
MAIN
WAY
NORTH
ALASKAN
ELLIOTT BAY
10
0
Scale in PPM CO

CARBON MONOXIDE CONCENTRATIONS
10/6/77 to 11/2/77
SEATTLE CENTRAL BUSINESS DISTRICT
MAXIMUM 4-HOUR AM[1] VALUES FOR ENTIRE SAMPLING INTERVAL

[1] 10 AM TO 2 PM

FIGURE 9


Denotes 20-Day Sites (10/6/77 - 11/2/77)
Denotes First 10-Day Sites (10/6/77 - 10/19/77)
Denotes Last 10-Day Sites (10/20/77 - 11/2/77)
Black Denotes Values Greater than 9 PPM CO
I-5
9th
8th
7th
6th
5th
4th
3rd
2nd
1st
I-5
YESLER WAY
JAMES
CHERRY
COLUMBIA
MARION
MADISON
SPRING
SENECA
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UNION
PIKE
PINE
OLIVE WAY
LENORA
WASHINGTON
MAIN
OCCIDENTAL
1st
WAY
NORTH
ALASKAN
ELLIOTT BAY
10
0
Scale in PPM CO

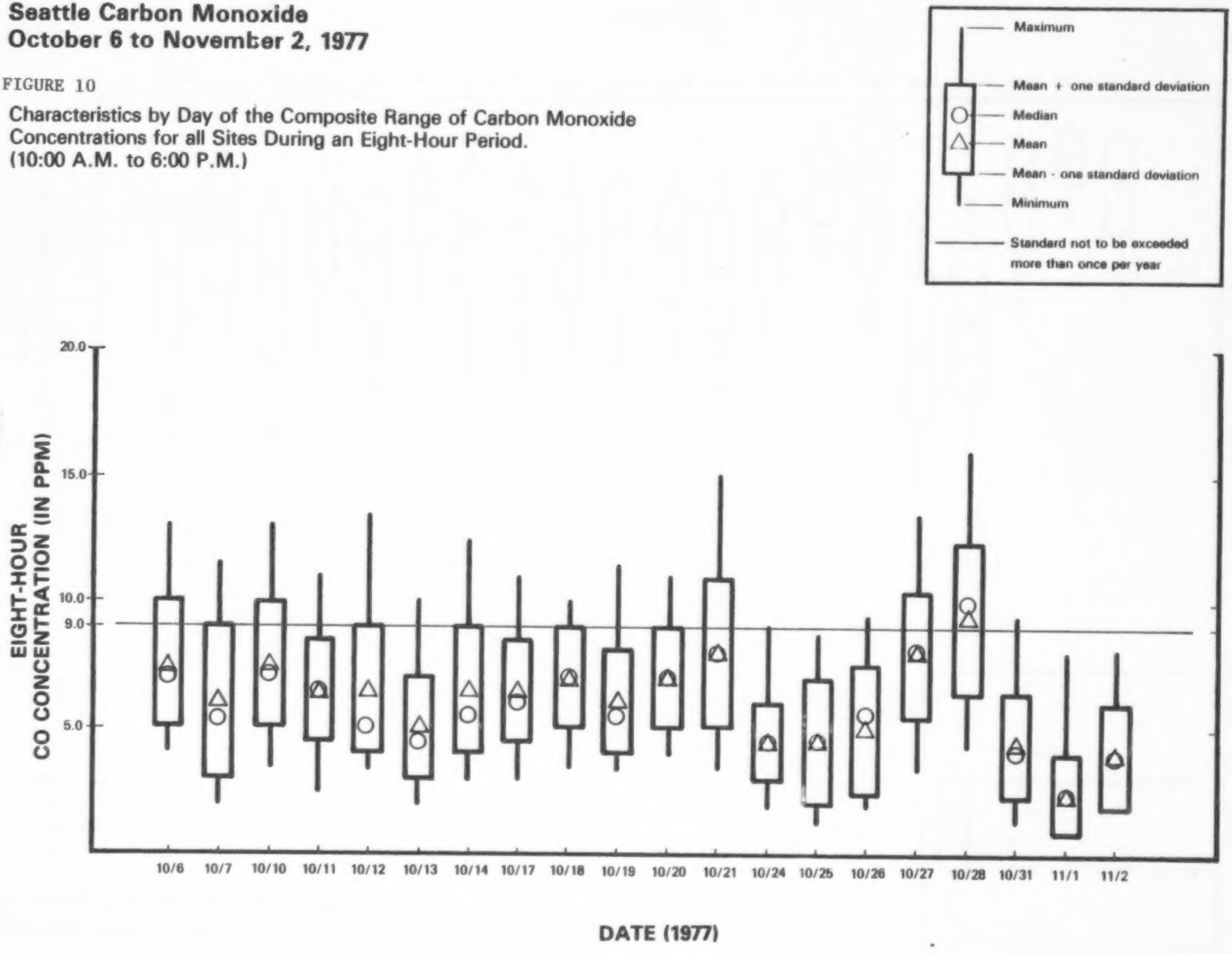
CARBON MONOXIDE CONCENTRATIONS
10/6/77 to 11/2/77
SEATTLE CENTRAL BUSINESS DISTRICT
MAXIMUM 4-HOUR PM[1] VALUES FOR ENTIRE SAMPLING INTERVAL

[1] 2 PM TO 6 PM

## Seattle Carbon Monoxide
## October 6 to November 2, 1977

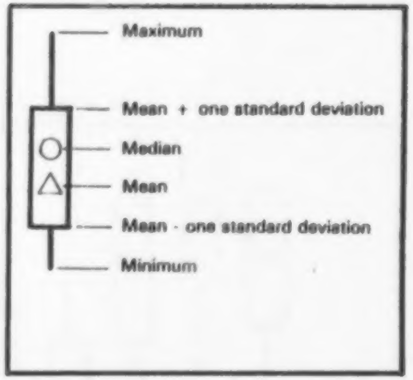
FIGURE 10

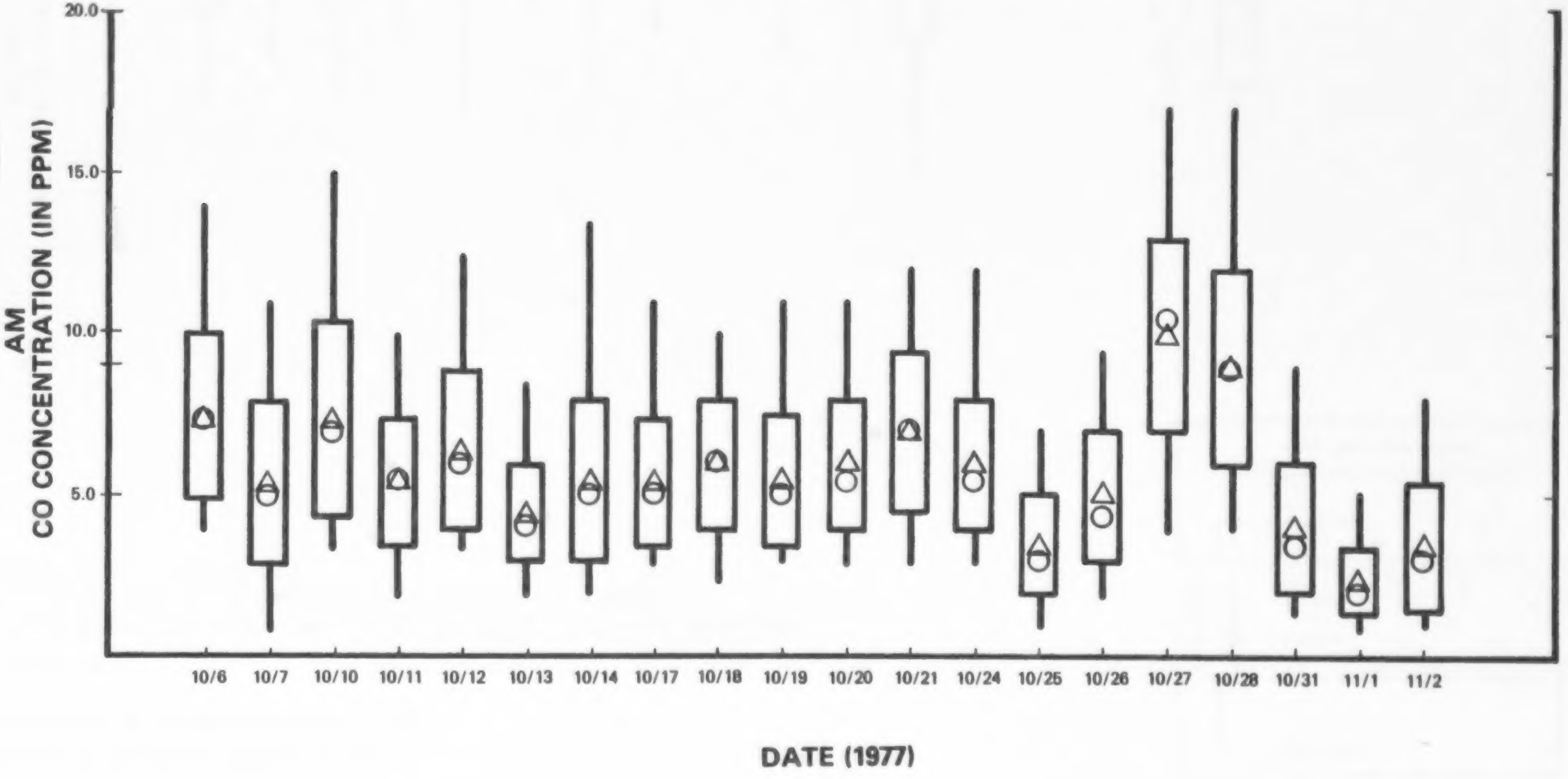
Characteristics by Day of the Composite Range of Carbon Monoxide Concentrations for all Sites During an Eight-Hour Period. (10:00 A.M. to 6:00 P.M.)



**Seattle Carbon Monoxide**
**October 6 to November 2, 1977**

FIGURE 11
Characteristics by Day of the Composite Range of Carbon Monoxide Concentrations for all Sites During the "A.M." Four-Hour Period. (10:00 A.M. to 2:00 P.M.)


Maximum
Mean + one standard deviation
Median
Mean
Mean - one standard deviation
Minimum



## Seattle Carbon Monoxide
## October 6 to November 2, 1977

FIGURE 12
Characteristics by Day of the Composite Range of Carbon Monoxide Concentrations for all Sites During the "P.M." Four-Hour Period. (2:00 P.M. to 6:00 P.M.)

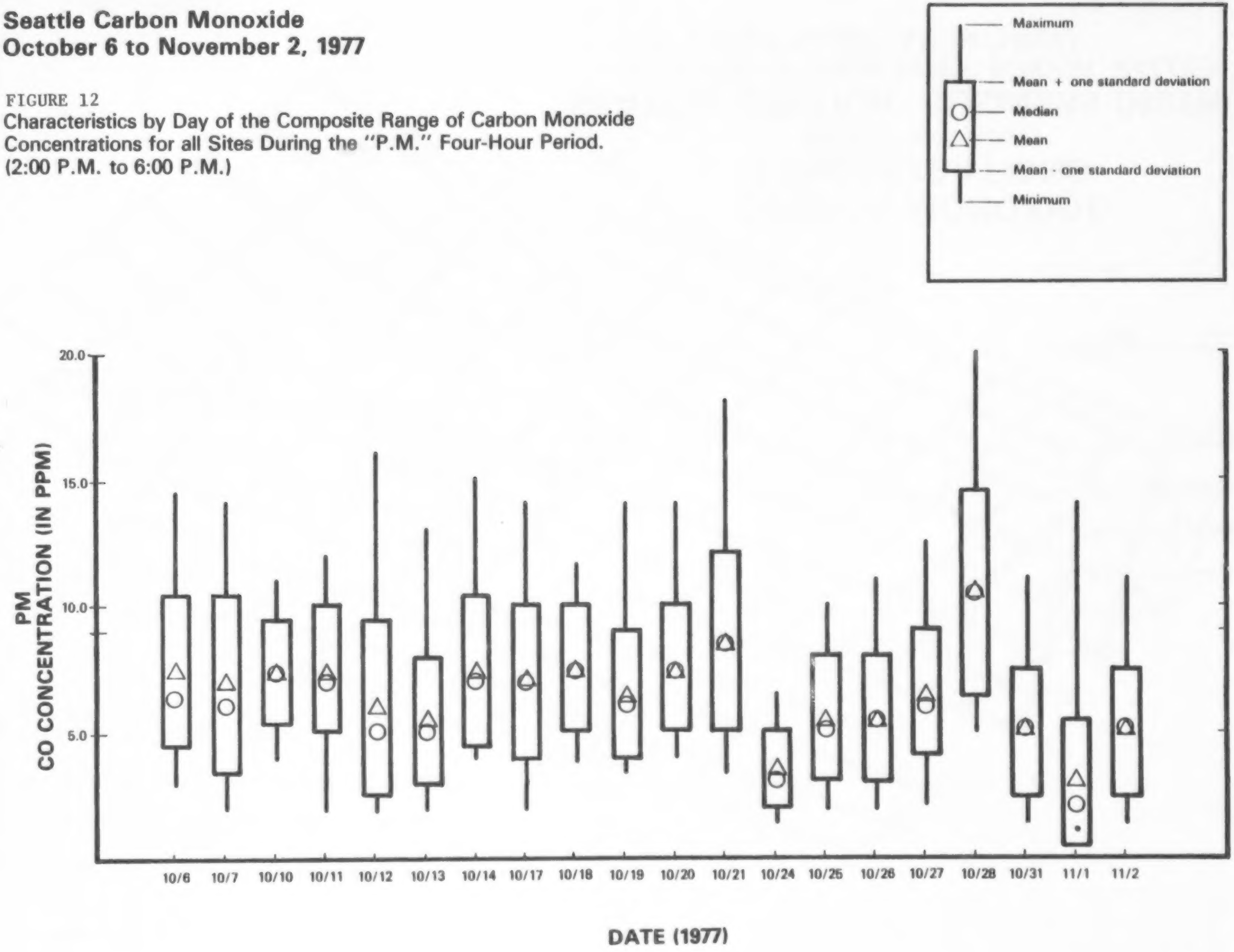
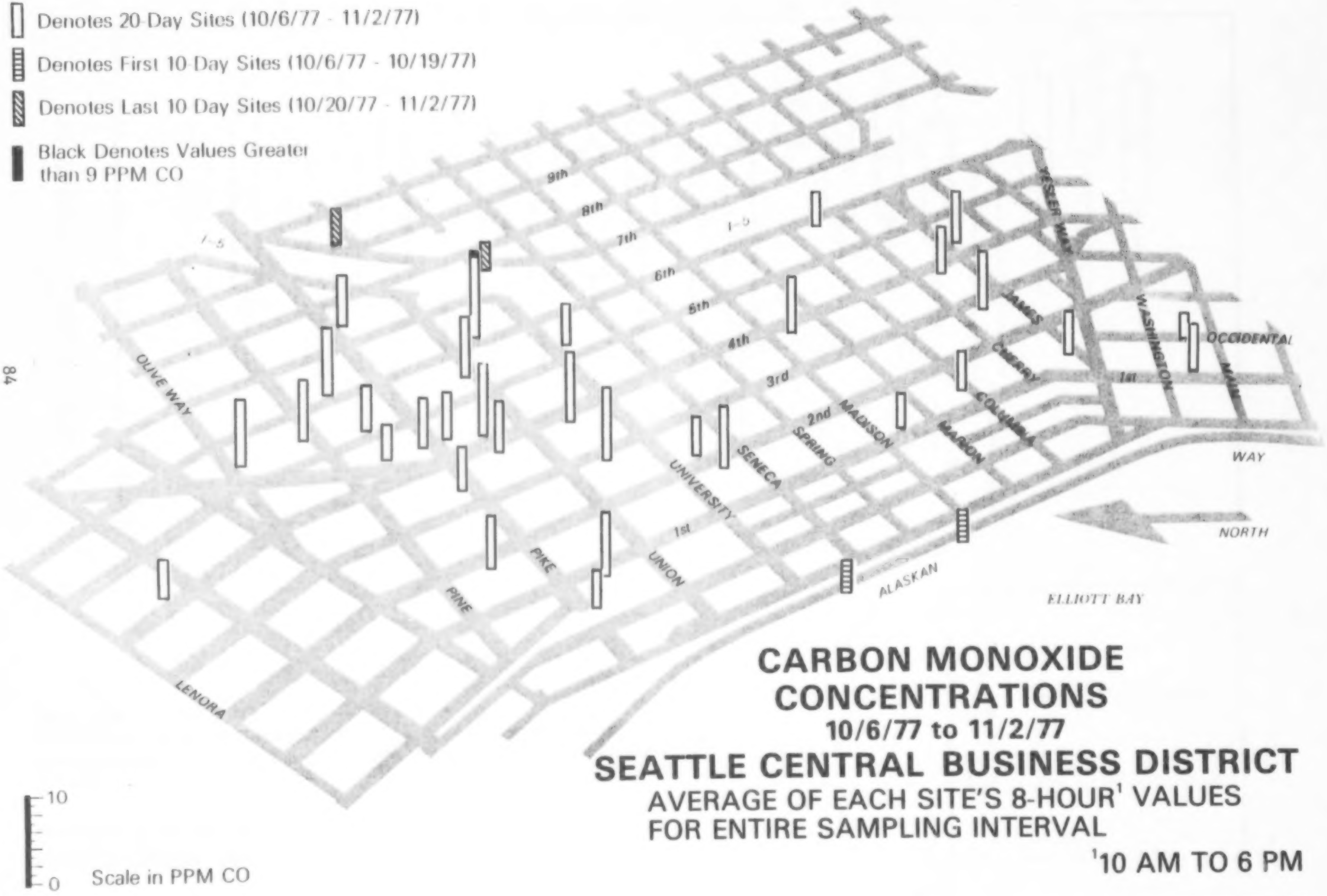


FIGURE 13

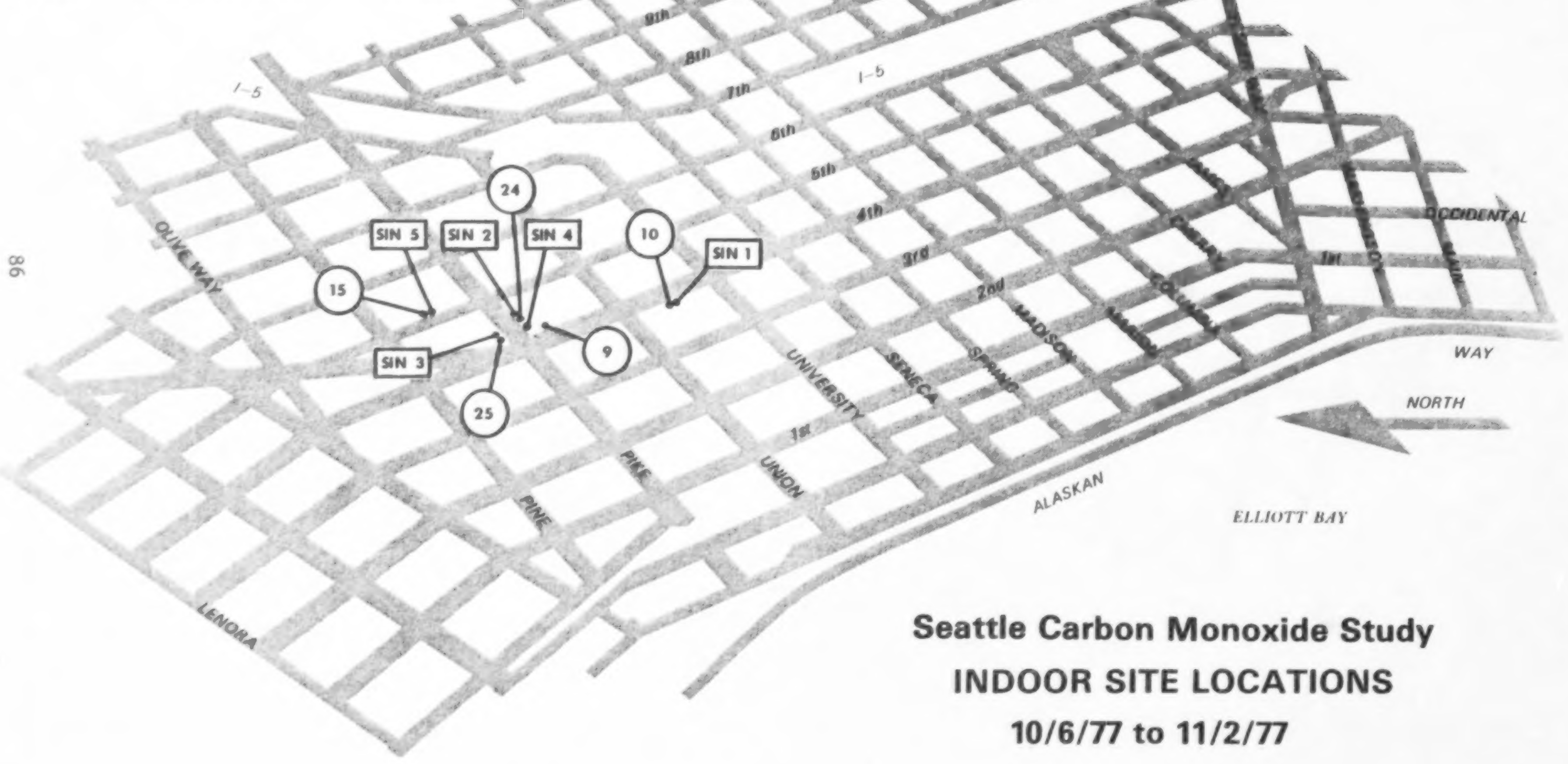

▯ Denotes 20-Day Sites (10/6/77 - 11/2/77)
▥ Denotes First 10-Day Sites (10/6/77 - 10/19/77)
▨ Denotes Last 10 Day Sites (10/20/77 - 11/2/77)
▮ Black Denotes Values Greater than 9 PPM CO
9th
8th
7th
6th
5th
4th
3rd
2nd
1st
I-5
I-5
OLIVE WAY
LENORA
PINE
PIKE
UNION
UNIVERSITY
SENECA
SPRING
MADISON
MARION
COLUMBIA
CHERRY
JAMES
YESLER WAY
WASHINGTON
MAIN
OCCIDENTAL
1st
WAY
ALASKAN
NORTH
ELLIOTT BAY
10
0
Scale in PPM CO

**CARBON MONOXIDE CONCENTRATIONS**
**10/6/77 to 11/2/77**
**SEATTLE CENTRAL BUSINESS DISTRICT**
AVERAGE OF EACH SITE'S 8-HOUR[1] VALUES
FOR ENTIRE SAMPLING INTERVAL

[1] 10 AM TO 6 PM

FIGURE 15

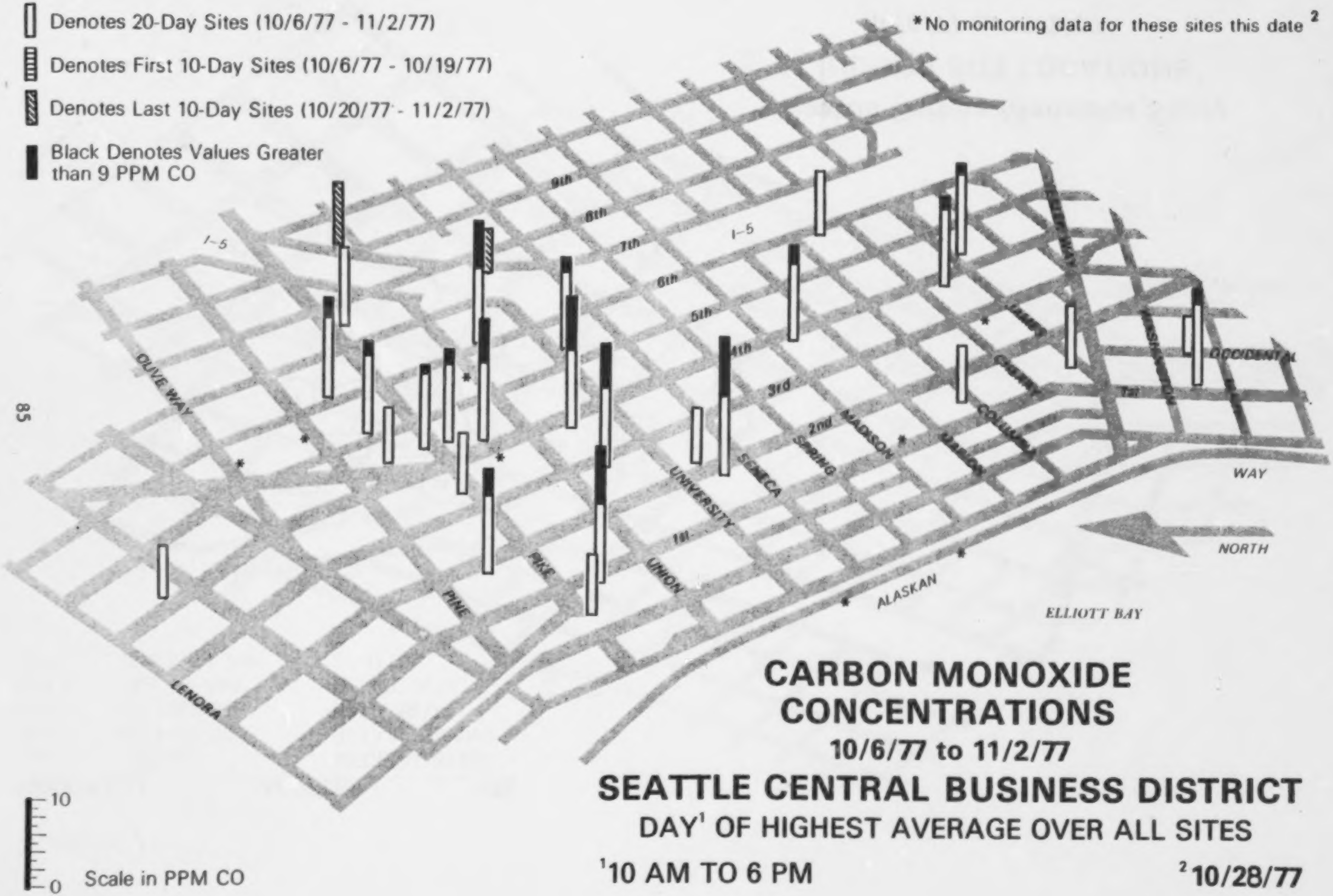
| INDOOR SITE | ADDRESS | USE |
|---|---|---|
| SIN 1 | 1303 4th | MEDICAL BLDG. |
| SIN 2 | 417 PIKE ST. | RETAIL SEWING |
| SIN 3 | 408 PIKE ST. | BANK BLDG. |
| SIN 4 | 1424 4th AVE. | OFFICE BLDG. |
| SIN 5 | 1516½ 5th AVE. | HOTEL |


9th
8th
7th
6th
5th
4th
3rd
2nd
1st
I-5
I-5
OLIVE WAY
LENORA
PINE
PIKE
UNION
UNIVERSITY
SENECA
SPRING
MADISON
COLUMBIA
1st
OCCIDENTAL
MAIN
WAY
NORTH
ALASKAN
ELLIOTT BAY
SIN 1
SIN 2
SIN 3
SIN 4
SIN 5
10
24
15
9
25

**Seattle Carbon Monoxide Study**
**INDOOR SITE LOCATIONS**
**10/6/77 to 11/2/77**

▭ INDOOR SITES ○ EPA SITES

FIGURE 14


Denotes 20-Day Sites (10/6/77 - 11/2/77)
Denotes First 10-Day Sites (10/6/77 - 10/19/77)
Denotes Last 10-Day Sites (10/20/77 - 11/2/77)
Black Denotes Values Greater than 9 PPM CO
*No monitoring data for these sites this date [2]
9th
8th
7th
6th
5th
4th
3rd
2nd
1st
I-5
I-5
OLIVE WAY
LENORA
PINE
PIKE
UNION
UNIVERSITY
SENECA
SPRING
MADISON
MARION
COLUMBIA
CHERRY
JAMES
YESLER WAY
WASHINGTON
MAIN
OCCIDENTAL
1st
ALASKAN
WAY
NORTH
ELLIOTT BAY
10
0
Scale in PPM CO

CARBON MONOXIDE CONCENTRATIONS

10/6/77 to 11/2/77

SEATTLE CENTRAL BUSINESS DISTRICT

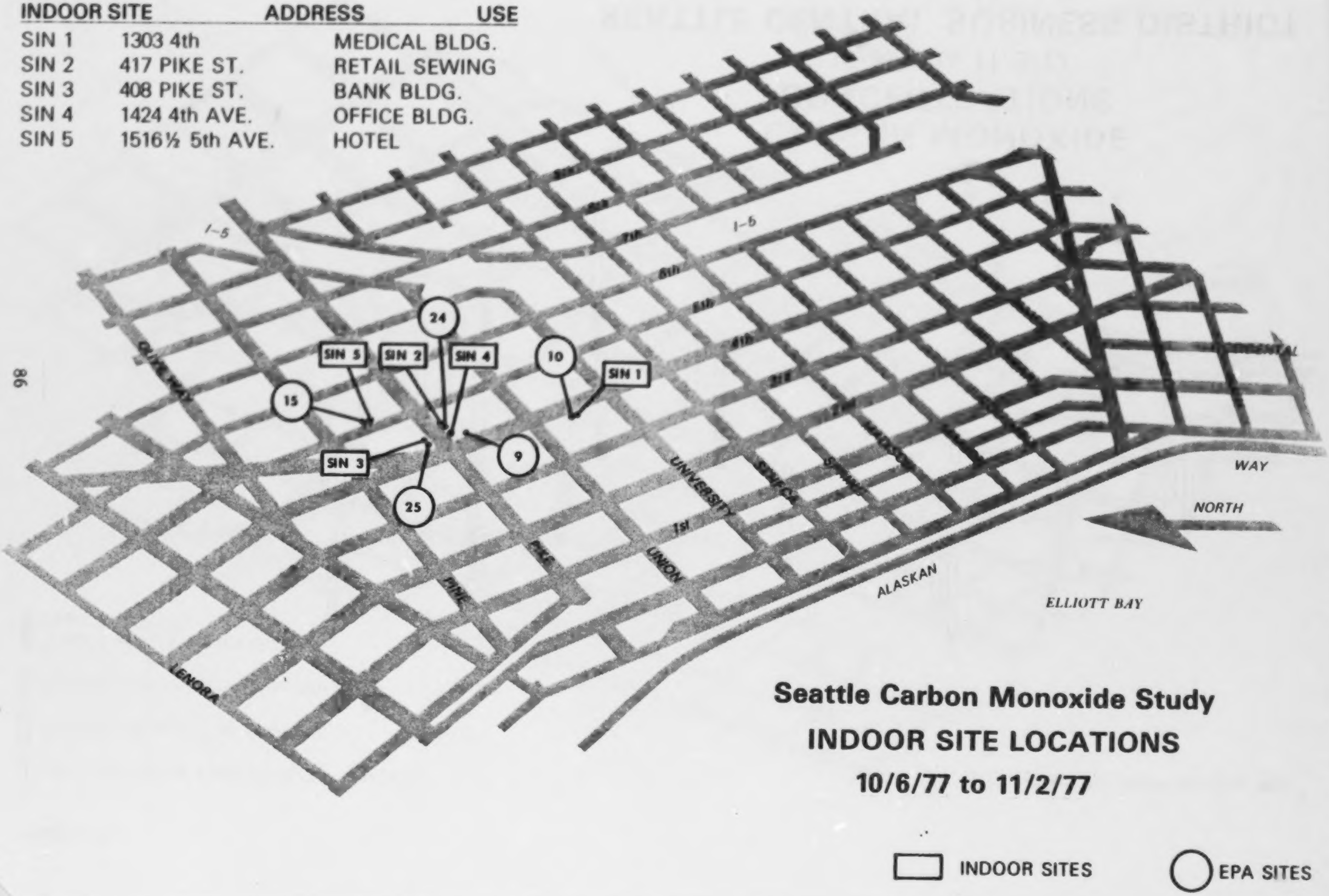
DAY[1] OF HIGHEST AVERAGE OVER ALL SITES

[1] 10 AM TO 6 PM

[2] 10/28/77

FIGURE 15

| INDOOR SITE | ADDRESS | USE |
|---|---|---|
| SIN 1 | 1303 4th | MEDICAL BLDG. |
| SIN 2 | 417 PIKE ST. | RETAIL SEWING |
| SIN 3 | 408 PIKE ST. | BANK BLDG. |
| SIN 4 | 1424 4th AVE. | OFFICE BLDG. |
| SIN 5 | 1516½ 5th AVE. | HOTEL |


I-5
I-5
9th
8th
7th
6th
5th
4th
3rd
2nd
OLIVE WAY
LENORA
PINE
PIKE
UNION
1st
UNIVERSITY
SENECA
SPRING
MADISON
OCCIDENTAL
ALASKAN
WAY
NORTH
ELLIOTT BAY
SIN 1
SIN 2
SIN 3
SIN 4
SIN 5
24
10
15
9
25
INDOOR SITES
EPA SITES

Seattle Carbon Monoxide Study
INDOOR SITE LOCATIONS
10/6/77 to 11/2/77

FIGURE 16

## Seattle Carbon Monoxide Indoor Site Summary

Characteristics of Indoor/Outdoor Concentrations[1]
At the SIN 1[2] Site

[1] Rounded to the nearest 0.5 ppm
[2] Cobb Medical Building at Fourth Avenue south of Union Street

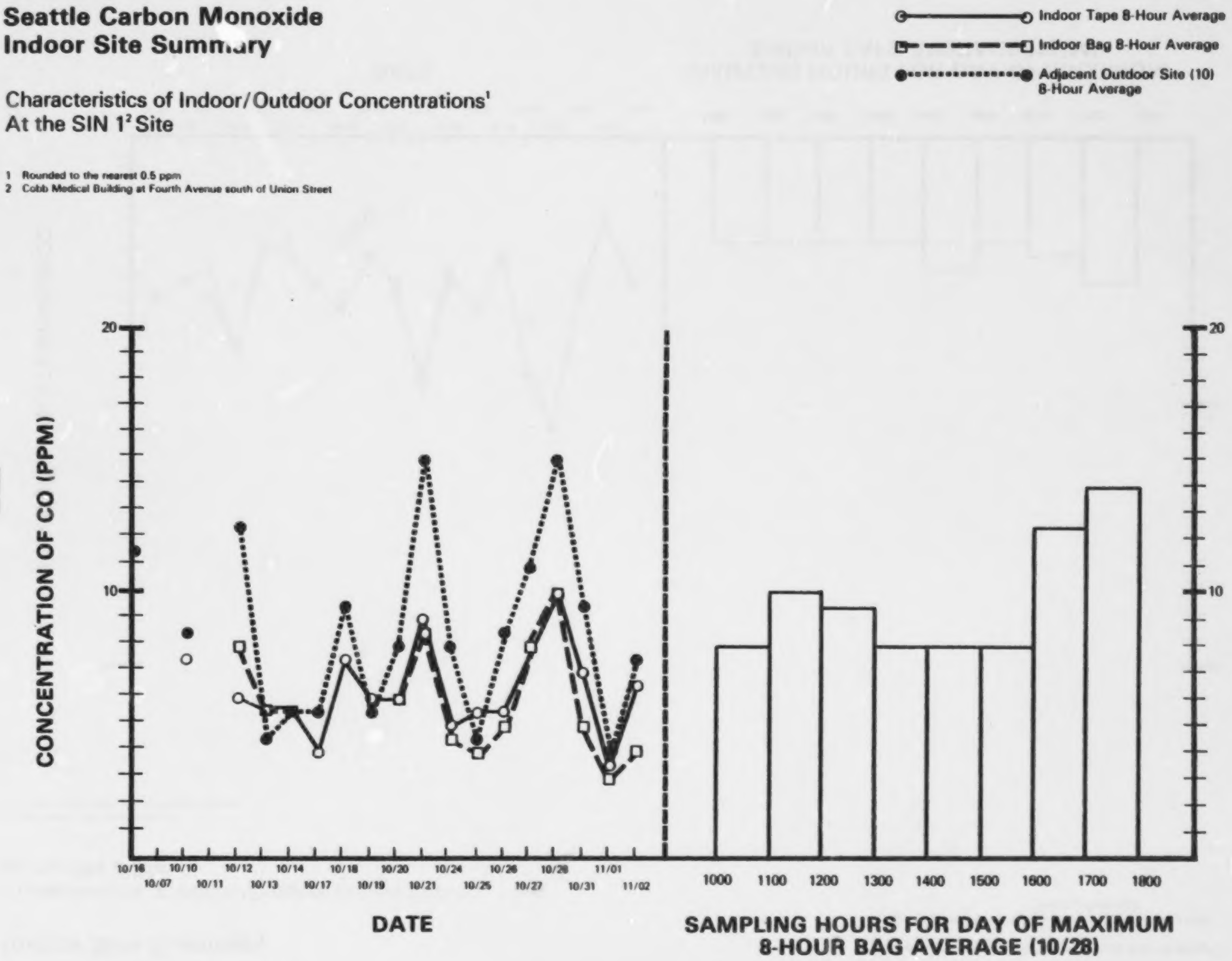
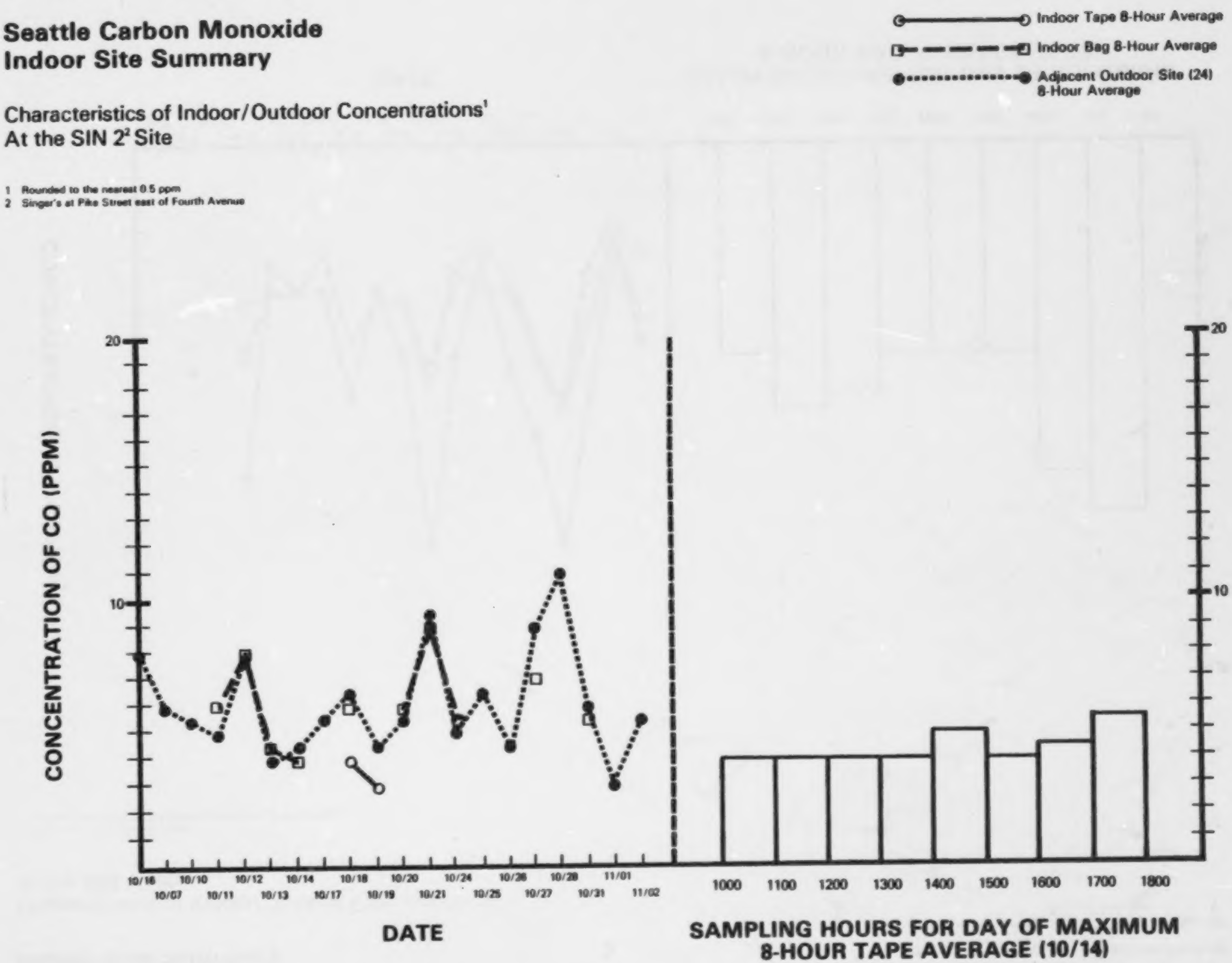


FIGURE 17

## Seattle Carbon Monoxide Indoor Site Summary

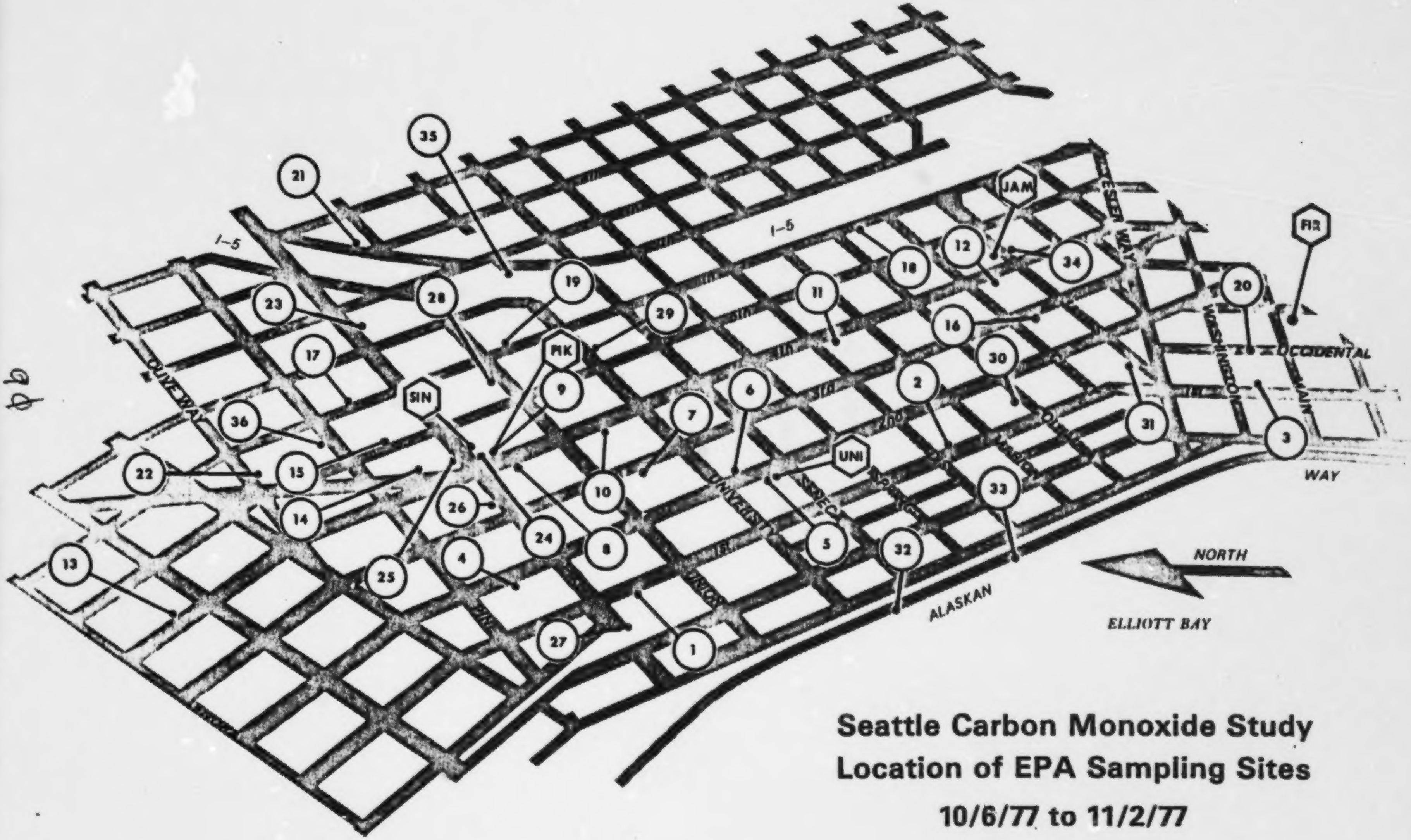
Characteristics of Indoor/Outdoor Concentrations[1]
At the SIN 2[2] Site

1 Rounded to the nearest 0.5 ppm
2 Singer's at Pike Street east of Fourth Avenue



# APPENDICES

| Appendix | Title |
|---|---|
| A | Sampling Sites |
| B | Sampling Stations |
| C | Outdoor Study Site and Permanent Monitoring Site Data |
| D | Indoor Site Data |
| E | Traffic Flow Map |


I-5
I-5
OLIVE WAY
PINE
UNION
UNIVERSITY
SENECA
SPRING
MARION
1ST
2ND
3RD
4TH
5TH
6TH
YESLER WAY
WASHINGTON
MAIN
OCCIDENTAL
WAY
ALASKAN
NORTH
ELLIOTT BAY
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32
33
34
35
36
JAM
FIR
PIK
SIN
UNI

Seattle Carbon Monoxide Study
Location of EPA Sampling Sites
10/6/77 to 11/2/77

⬡ STATE SITES
○ EPA SITES

## APPENDIX A
1

SEATTLE CO STUDY - Oct. 6 to Nov. 2, 1977

SITE IDENTIFICATION

| SITE # | LOCATION | SIDE OF STREET |
|---|---|---|
| 1 | 1st s/o Pike | W |
| 2 | 1st s/o Madison | E |
| 3 | 1st s/o Washington | E |
| 4 | 2nd s/o Pine | W |
| 5 | 2nd s/o University | W |
| 6 | 2nd s/o University | E |
| 7 | 3rd s/o Union | W |
| 8 | 4th s/o Pike | W |
| 9 | 4th s/o Pike | E |
| 10 | 4th s/o Union | W |
| 11 | 4th s/o Madison | W |
| 12 | 4th s/o Cherry | W |
| 13 | 4th s/o Lenora | E |
| 14 | 4th s/o Pine | E |
| 15 | 5th s/o Pine | E |
| 16 | 3rd s/o Cherry | W |
| 17 | 6th s/o Pine | E |
| 18 | 6th s/o Columbia | W |
| 19 | 6th s/o Union | E |
| 20 | Occidental s/o Washington | S |
| 21 | 9th s/o Union | E |
| 22 | Olive e/o 5th | S |
| 23 | Pike e/o 7th | S |
| 24 | Pike e/o 4th | S |
| 25 | Pike e/o 4th | N |
| 26 | Pike e/o 3rd | N |
| 27 | Pike w/o 1st | S |
| 28 | Union e/o 5th | N |
| 29 | University e/o 5th | S |
| 30 | Columbia e/o 1st | N |
| 31 | James e/o 1st | N |
| 32 | Alaskan Way s/o University | W |
| 33 | Alaskan Way s/o Madison | W |
| 34 | James e/o 4th | S |
| 35 | Seneca e/o 6th | N |
| 36 | Pine e/o 5th | N |
| PERMANENT MONITORS | (STATE SITES) | |
| JAM | JAMES E/O 4TH | N |
| UNI | 2ND S/O UNIVERSITY | W |
| SIN | PIKE E/O 4TH | S |
| PIK | 4TH S/O PIKE | E |
| FIR | 2ND S/O MAIN | W |

# APPENDIX B

1

## SAMPLING STATIONS

Each sampling station used in the survey contained a removable sample pump and a bag assembly. These were attached to a mounting arm to extend the intake of the pump about one meter from a light pole, utility pole, or parking meter which provided the basic support. These stations are described as follows:

### Sampling Station Parts

The sampler consists of three major parts:

1. The sample pump and bag assembly.
2. The bracket assembly which extends the pump and bag assembly meter from the mounting unit over the sidewalk.
3. The mounting unit which attaches to a light pole or utility pole or, with adaptations, to a parking meter. This unit holds the entire sample pump/bag assembly and mounting arm at three meters above ground level.

### General

The major components are made of PVC plastic pipe that is readily available from any plumbing supply house. The bag, which the gas samples are collected in, is made of aluminized mylar, Tedlar or other suitable plastics compatible with the gas to be collected. The capacity of the bags is slightly more than four liters. The pump is an EMI, portable pulse pump, battery operated and adjusted to collect a gas sample at one/liter hour. The theory of bag sampling requires pumping the sample of air into the bag at a constant rate without filling the bag. Based on this theory, flow adjustments are quite simple and require no flow meters, only visual inspection to determine the quantity of air in the bag.

## Sample Pump and Bag Assembly

The support assembly consists of two 4-inch diameter sewage and drain caps (Part Nos. 15 and 16) that are held together on the edge by two 1/8-inch x 1/4-inch pop rivets. The pump is held in one cap by a 2-inch, 10-32 screw which fits in the top of the EMI sample pump. To protect the pump, a shield made of 4-inch diameter sewer and drain (S&D) pipe (Part No. 17) is slipped into the 4-inch cap (Part No. 16). The shield can be removed for access to the pump. The other 4-inch cap fits on top of the bag tube and thereby, secures the pump to the bag assembly.

The rectangular bag (Part No. 25) is designed to fit into the 4-inch diameter bag cylinder (Part No. 20) and is held in place by a Robert's valve. One-inch high, four-inch long strips of 10-mil, clear, rigid plastic (available at air supply stores) are placed across the width of the bag at four equally spaced places with an additional one at the top and bottom for a total of six strips. The strips, secured with double back tape, are placed on the valve side of the bag and aid uniform collapsing of the bag by maintaining the bag flat against the side of the cylinder. To provide for mounting the assembly to the bracket, a 1-1/4" diameter sewer and drain pipe (Part No. 22) is riveted to the side (Part No. 20) with two 1/8" x 1/4" pop rivets and washers. If these are not aligned vertically, the bag assembly will "list" from the vertical when mounted on the bracket.

A bottom cap (Part No. 21) with a 3/8" hole in the center for draining moisture protects the bag from weather and vandalism. An eye bolt (Part No. 23), secured in the upper three inches of the tube, is used when moving the bag/pump unit at heights. A hook at the end of a long, hand-held pole is inserted in the eye bolt to lift and lower the sample pump/bag assembly when it is mounted above a person's reach.

## Bracket Assembly

The bracket assembly consists of a triangle structure to extend the sampler at least one meter from the curb over the side walk. The triangle is constructed of white, PVC Schedule 40 pipe and fittings as shown in Parts 1 through 14. Bonding with PVC cement is required for the following pieces: 5, 6, 7, 9, and 10; 11, 12, and 13; 1 and 14; 2, 3, and 4. No other joints require cementing. This allows disassembling into four pieces for ease in storage and transport.

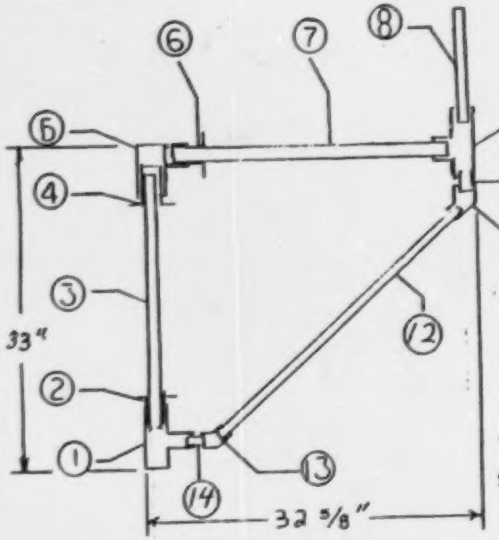
Parts 2, 3 and 4 (cemented together) are required for pole mounting where the bracket must fit over a one-inch diameter pipe. Part 24 is substituted for these when the bracket assembly is mounted on a one-inch diameter pole attached to a parking meter. Part No. 24 is slipped over the one-inch diameter pipe attached to the parking meter. The bag assembly is attached to the bracket assembly by Part No. 22 slipping over Part No. 8.

## Mounting

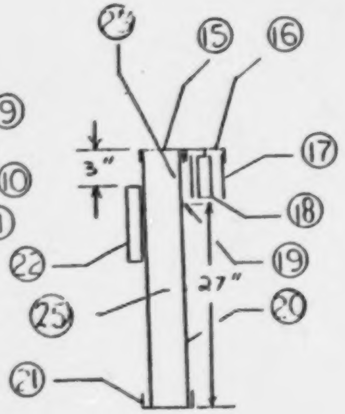
For mounting on a light pole or any six-inch through twenty-four inch diameter pole, two Radio Shack "Chimmney TV antenna mounts" with adjustable straps are required and attached to Part No. 3. For mounting on a parking meter, two 5 feet long, steel TV antenna poles (Part No. 28) are required along with two 4-inch gutter mounts. Both are available from Radio Shack. Rebending the gutter mounts may be necessary if the parking meter's vertical pipe is less than four inches in diameter. Part 24 of the triangle assembly slips over the 1" pipe. Steel pipe should be used because aluminum does not have the desired strength.

To remove the sample pump and bag assembly (with the sample inside) from the bracket assembly, an eight-foot wooden pole with a hook at the top and a six inch diameter, plastic collar at twenty-four inches from the top is used. The collar is slipped around the lower end of the sample bag tube and the hook is engaged to the eye (Part No. 23). The pump/bag assembly can then be lifted up over Part No. 8, disengaging it from the bracket assembly.

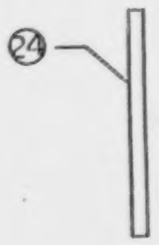
Two or more bag assemblies are usually desired for each pump assembly. This permits nearly continuous 8-hour samples by using two 4-hour bags sequentially with the same pump assembly. (Changing the bag assembly requires less than a minute.)



BRACKET ASSEMBLY



SAMPLE PUMP & BAG ASSEMBLY

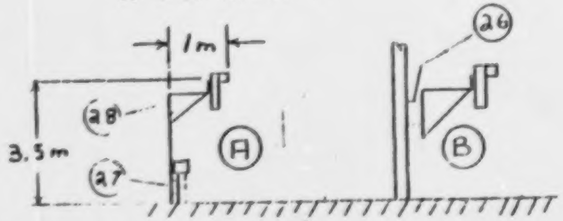


NOTE: FOR PARKING METER INSTALLATION Ⓐ
USE 2-5' TV ANTENNA POLE WITH
2-GUTTER CLAMPS . 27, AND
SUBSTITUTE PART 24 FOR PARTS 2, 3, 4

FOR POLE MOUNT USE 2-TV ANTENNA Ⓑ
CHIMNEY MOUNTS 26

MOUNTS AVAILABLE THRU RADIO SHACK

PARTS 15 & 16 and 20 & 22 HELD WITH
¼" POP RIVET



Material-PVC Sch-40 White
Plastic Pipe & Fittings

List of Parts

| | |
|---|---|
| 1 | 1¼" Tee |
| 2 | 1" to 1¼" Bushing |
| 3 | 1" Pipe 26¾" long |
| 4 | 1" to 1¼" Bushing |
| 5 | 1¼" Elbow |
| 6 | 1" to 1¼" Bushing |
| 7 | 1" Pipe 29½" long |
| 8 | 1" Pipe 14" long |
| 9 | 1" Tee |
| 10 | 1" Pipe 1½" long |
| 11 | 1" 45° |
| 12 | 1" Pipe 37¾" long |
| 13 | 1" 45° |
| 14 | 1" Pipe 1½" long |
| 15 | 4" Pipe Cap S&D |
| 16 | 4" Pipe Cap S&D |
| 17 | 4" Pipe 5" long S&D |
| 18 | EMI Pulse Pump<br>1 liter per hour |
| 19 | Hinkley-Roberts metal ⅜" Valve |
| 20 | 4" Pipe 33" long S&D |
| 21 | 4" Pipe Cap S&D |
| 22 | 1¼" Pipe 9" long S&D |
| 23 | 3" long eye Bolt |
| 24 | 1¼" Pipe 27½" long S&D (Pole Mount) |
| 25 | Aluminized Mylar Sample Bag 32" long & 6½" Wide |

26. Pole Mount
Radio Shack
# 15-527

27. Meter Mount
Radio Shack
# 15-893

28. Pole (2-5')
Radio Shack
# 15-842

S&D = Sewer & Drain

EPA 4-Liter
Bag Sampler

Designed BY HA
Drawn BY EA

Alsid, Snowden & Assoc
13240 Northrup
Bellevue Wa.
206-641-5130

# APPENDIX C

## Outdoor Study Site and Permanent Monitoring Site Data

# APPENDIX C

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C-1. Raw Data Sorted by Site for Four-Hour Bag Samples and Calculated Eight-Hour Averages - EPA Study Sites.................... 1

C-2. Ratios of Average Carbon Monoxide Concentrations - EPA Study Sites Compared to the Permanent Sites (Sorted by Site and Date)....................................................... 13

C-3. Comparison of EPA Study Site Average Carbon Monoxide Concentrations to EPA Study Site/Permanent Site Ratios (Sorted by Site and Study Site Average).................................... 26

C-4. Comparison of EPA Study Site Average Carbon Monoxide Concentrations to EPA Study Site/Permanent Site Ratios (Sorted by Date and Study Site Average).................................... 38

C-5. Concentrations of Carbon Monoxide at the Permanent Sites........ 51

RAW DATA SORTED BY SITE FOR FOUR-HOUR BAG SAMPLES AND CALCULATED EIGHT-HOUR AVERAGES
EPA STUDY SITES
(ppm OF CARBON MONOXIDE)

| RECNO | DATE | STUDY SITE | AM1/ | PM2/ | AVG3/ | MAIN ST. | CROSS ST. | SIDE | RATIO AM/PM |
|---|---|---|---|---|---|---|---|---|---|
| 1 | 10/06/77 | 1 | 10.8 | 12.1 | 11.5 | 1ST | S/O PIKE | W | .9 |
| 2 | 10/07/77 | 1 | 9.2 | 13.9 | 11.6 | 1ST | S/O PIKE | W | .7 |
| 3 | 10/10/77 | 1 | 11.5 | 10.3 | 10.9 | 1ST | S/O PIKE | W | 1.1 |
| 4 | 10/11/77 | 1 | 6.3 | 10.9 | 8.6 | 1ST | S/O PIKE | W | .6 |
| 5 | 10/12/77 | 1 | 7.1 | .0 | .0 | 1ST | S/O PIKE | W | .0 |
| 6 | 10/13/77 | 1 | 4.1 | 6.2 | 5.2 | 1ST | S/O PIKE | W | .7 |
| 7 | 10/14/77 | 1 | 6.9 | 6.8 | 6.9 | 1ST | S/O PIKE | W | 1.0 |
| 8 | 10/17/77 | 1 | 6.9 | 10.1 | 8.5 | 1ST | S/O PIKE | W | .7 |
| 9 | 10/18/77 | 1 | 9.8 | 9.5 | 9.7 | 1ST | S/O PIKE | W | 1.0 |
| 10 | 10/19/77 | 1 | 6.0 | 7.0 | 6.5 | 1ST | S/O PIKE | W | .9 |
| 11 | 10/20/77 | 1 | .0 | 12.8 | .0 | 1ST | S/O PIKE | W | .0 |
| 12 | 10/21/77 | 1 | 7.8 | 8.9 | 8.4 | 1ST | S/O PIKE | W | .9 |
| 13 | 10/24/77 | 1 | 7.1 | 3.8 | 5.5 | 1ST | S/O PIKE | W | 1.9 |
| 14 | 10/25/77 | 1 | 4.0 | 9.2 | 6.6 | 1ST | S/O PIKE | W | .4 |
| 15 | 10/26/77 | 1 | 5.0 | 6.6 | 5.8 | 1ST | S/O PIKE | W | .8 |
| 16 | 10/27/77 | 1 | 10.8 | 12.5 | 11.7 | 1ST | S/O PIKE | W | .9 |
| 17 | 10/28/77 | 1 | 12.4 | 19.9 | 16.1 | 1ST | S/O PIKE | W | .6 |
| 18 | 10/31/77 | 1 | 5.0 | 9.6 | 7.3 | 1ST | S/O PIKE | W | .5 |
| 19 | 11/01/77 | 1 | 2.4 | 3.4 | 2.9 | 1ST | S/O PIKE | W | .7 |
| 20 | 11/02/77 | 1 | 4.8 | 7.7 | 6.3 | 1ST | S/O PIKE | W | .6 |
| 21 | 10/06/77 | 2 | 5.9 | 3.1 | 4.5 | 1ST | S/O MADISON | E | 1.9 |
| 22 | 10/07/77 | 2 | 2.3 | 3.5 | 2.9 | 1ST | S/O MADISON | E | .7 |
| 23 | 10/10/77 | 2 | 4.0 | 5.2 | 4.6 | 1ST | S/O MADISON | E | .8 |
| 24 | 10/11/77 | 2 | 3.6 | 3.1 | 3.4 | 1ST | S/O MADISON | E | 1.2 |
| 25 | 10/12/77 | 2 | 3.8 | 4.0 | 3.9 | 1ST | S/O MADISON | E | 1.0 |
| 26 | 10/13/77 | 2 | 3.2 | 3.5 | 3.4 | 1ST | S/O MADISON | E | .9 |
| 27 | 10/14/77 | 2 | 4.0 | 4.2 | 4.1 | 1ST | S/O MADISON | E | 1.0 |
| 28 | 10/17/77 | 2 | 4.1 | 3.8 | 4.0 | 1ST | S/O MADISON | E | 1.1 |
| 29 | 10/18/77 | 2 | 3.3 | 6.0 | 4.7 | 1ST | S/O MADISON | E | .6 |
| 30 | 10/19/77 | 2 | 3.1 | 4.1 | 3.6 | 1ST | S/O MADISON | E | .8 |
| 31 | 10/20/77 | 2 | 3.2 | 4.6 | 3.9 | 1ST | S/O MADISON | E | .7 |
| 32 | 10/21/77 | 2 | 4.0 | 5.1 | 4.6 | 1ST | S/O MADISON | E | .8 |
| 33 | 10/24/77 | 2 | 3.9 | 1.3 | 2.6 | 1ST | S/O MADISON | E | 3.0 |
| 34 | 10/25/77 | 2 | 1.6 | 3.9 | 2.7 | 1ST | S/O MADISON | E | .4 |
| 35 | 10/26/77 | 2 | 4.0 | .0 | .0 | 1ST | S/O MADISON | E | .0 |
| 36 | 10/27/77 | 2 | 11.9 | 2.8 | 7.4 | 1ST | S/O MADISON | E | 4.3 |
| 37 | 10/28/77 | 2 | 5.9 | 8.0 | 7.0 | 1ST | S/O MADISON | E | .7 |
| 38 | 10/31/77 | 2 | 1.5 | 1.3 | 1.4 | 1ST | S/O MADISON | E | 1.2 |
| 39 | 11/01/77 | 2 | 1.2 | 1.2 | 1.2 | 1ST | S/O MADISON | E | 1.0 |
| 40 | 11/02/77 | 2 | 1.0 | 2.7 | 1.8 | 1ST | S/O MADISON | E | .4 |
| 41 | 10/06/77 | 3 | 13.8 | 6.5 | 10.2 | 1ST | S/O WASHINGTON | E | 2.1 |
| 42 | 10/07/77 | 3 | 2.1 | 4.0 | 3.0 | 1ST | S/O WASHINGTON | E | .5 |
| 43 | 10/10/77 | 3 | 4.1 | 4.2 | 4.2 | 1ST | S/O WASHINGTON | E | 1.0 |
| 44 | 10/11/77 | 3 | 3.5 | 3.8 | 3.7 | 1ST | S/O WASHINGTON | E | .9 |
| 45 | 10/12/77 | 3 | 7.2 | 5.3 | 6.3 | 1ST | S/O WASHINGTON | E | 1.4 |
| 46 | 10/13/77 | 3 | 4.4 | 3.6 | 4.0 | 1ST | S/O WASHINGTON | E | 1.2 |
| 47 | 10/14/77 | 3 | 4.2 | 4.0 | 4.1 | 1ST | S/O WASHINGTON | E | 1.0 |
| 48 | 10/17/77 | 3 | 6.0 | 3.5 | 4.8 | 1ST | S/O WASHINGTON | E | 1.7 |
| 49 | 10/18/77 | 3 | 3.6 | 4.9 | 4.3 | 1ST | S/O WASHINGTON | E | .7 |
| 50 | 10/19/77 | 3 | 3.1 | .0 | .0 | 1ST | S/O WASHINGTON | E | .0 |
| 51 | 10/20/77 | 3 | 4.9 | 7.8 | 6.4 | 1ST | S/O WASHINGTON | E | .6 |
| 52 | 10/21/77 | 3 | 7.0 | 10.0 | 8.5 | 1ST | S/O WASHINGTON | E | .7 |
| 53 | 10/24/77 | 3 | 5.0 | 3.1 | 4.1 | 1ST | S/O WASHINGTON | E | 1.6 |
| 54 | 10/25/77 | 3 | 2.9 | .0 | .0 | 1ST | S/O WASHINGTON | E | .0 |
| 55 | 10/26/77 | 3 | 6.5 | 5.5 | 6.0 | 1ST | S/O WASHINGTON | E | 1.2 |
| 56 | 10/27/77 | 3 | 10.4 | 4.0 | 7.2 | 1ST | S/O WASHINGTON | E | 2.6 |
| 57 | 10/28/77 | 3 | 8.3 | 13.6 | 11.0 | 1ST | S/O WASHINGTON | E | .6 |
| 58 | 10/31/77 | 3 | 4.0 | 4.1 | 4.1 | 1ST | S/O WASHINGTON | E | 1.0 |
| 59 | 11/01/77 | 3 | 3.0 | 2.3 | 2.7 | 1ST | S/O WASHINGTON | E | 1.3 |
| 60 | 11/02/77 | 3 | 8.3 | 5.6 | 6.9 | 1ST | S/O WASHINGTON | E | 1.5 |

1. Average carbon monoxide for the 10 A.M. to 2 P.M. period.
2. Average carbon monoxide for the 2 P.M. to 6 P.M. period.
3. Average carbon monoxide for the 10 A.M. to 6 P.M. period, based on average of two four-hour samples.

NOTE: Any appearance of zero as a data entry indicates the absence of valid data and should not be confused with a reported value of zero. All viable samples during the survey had detectable CO. Values of zero were omitted from statistical calculations.

# APPENDIX C

| RECNO | DATE | STUDY SITE | AM1/ | PM2/ | AVC3/ | MAIN ST. | CROSS ST. | SIDE | RATIO AM/PM |
|---|---|---|---|---|---|---|---|---|---|
| 61 | 10/06/77 | 4 | 8.0 | 12.0 | 10.0 | 2ND | S/O PINE | W | .7 |
| 62 | 10/07/77 | 4 | 6.9 | 11.0 | 9.0 | 2ND | S/O PINE | W | .6 |
| 63 | 10/10/77 | 4 | 7.0 | 6.5 | 6.8 | 2ND | S/O PINE | W | 1.1 |
| 64 | 10/11/77 | 4 | 5.0 | 8.8 | 6.9 | 2ND | S/O PINE | W | .6 |
| 65 | 10/12/77 | 4 | 6.2 | 8.9 | 7.5 | 2ND | S/O PINE | W | .7 |
| 66 | 10/13/77 | 4 | 4.1 | 5.0 | 4.6 | 2ND | S/O PINE | W | .8 |
| 67 | 10/14/77 | 4 | 6.1 | 8.0 | 7.1 | 2ND | S/O PINE | W | .8 |
| 68 | 10/17/77 | 4 | .0 | .0 | .0 | 2ND | S/O PINE | W | .0 |
| 69 | 10/18/77 | 4 | 7.2 | 10.0 | 8.6 | 2ND | S/O PINE | W | .7 |
| 70 | 10/19/77 | 4 | 5.2 | 6.9 | 6.1 | 2ND | S/O PINE | W | .8 |
| 71 | 10/20/77 | 4 | 5.3 | 10.1 | 7.7 | 2ND | S/O PINE | W | .5 |
| 72 | 10/21/77 | 4 | 7.9 | 13.0 | 10.5 | 2ND | S/O PINE | W | .6 |
| 73 | 10/24/77 | 4 | 6.6 | 3.6 | 5.1 | 2ND | S/O PINE | W | 1.8 |
| 74 | 10/25/77 | 4 | 3.8 | .0 | .0 | 2ND | S/O PINE | W | .0 |
| 75 | 10/26/77 | 4 | 5.0 | 6.9 | 6.0 | 2ND | S/O PINE | W | .7 |
| 76 | 10/27/77 | 4 | 10.5 | 8.0 | 9.3 | 2ND | S/O PINE | W | 1.3 |
| 77 | 10/28/77 | 4 | 10.6 | 13.0 | 11.8 | 2ND | S/O PINE | W | .8 |
| 78 | 10/31/77 | 4 | 5.8 | 8.0 | 6.9 | 2ND | S/O PINE | W | .7 |
| 79 | 11/01/77 | 4 | 2.7 | 3.2 | 3.0 | 2ND | S/O PINE | W | .8 |
| 80 | 11/02/77 | 4 | 4.7 | 6.9 | 5.8 | 2ND | S/O PINE | W | .7 |
| 81 | 10/06/77 | 5 | .0 | .0 | .0 | 2ND | S/O UNIVERSITY | W | .0 |
| 82 | 10/07/77 | 5 | 6.5 | 8.1 | 7.3 | 2ND | S/O UNIVERSITY | W | .8 |
| 83 | 10/10/77 | 5 | 13.5 | 8.0 | 10.8 | 2ND | S/O UNIVERSITY | W | 1.7 |
| 84 | 10/11/77 | 5 | 6.3 | 8.2 | 7.3 | 2ND | S/O UNIVERSITY | W | .8 |
| 85 | 10/12/77 | 5 | .0 | 10.0 | .0 | 2ND | S/O UNIVERSITY | W | .0 |
| 86 | 10/13/77 | 5 | 4.1 | 4.2 | 4.2 | 2ND | S/O UNIVERSITY | W | 1.0 |
| 87 | 10/14/77 | 5 | 5.9 | 12.5 | 9.2 | 2ND | S/O UNIVERSITY | W | .5 |
| 88 | 10/17/77 | 5 | 4.9 | 6.5 | 5.7 | 2ND | S/O UNIVERSITY | W | .8 |
| 89 | 10/18/77 | 5 | 7.0 | 9.9 | 8.5 | 2ND | S/O UNIVERSITY | W | .7 |
| 90 | 10/19/77 | 5 | 5.0 | 6.1 | 5.6 | 2ND | S/O UNIVERSITY | W | .8 |
| 91 | 10/20/77 | 5 | 7.0 | 11.3 | 9.2 | 2ND | S/O UNIVERSITY | W | .6 |
| 92 | 10/21/77 | 5 | 8.0 | 14.9 | 11.5 | 2ND | S/O UNIVERSITY | W | .5 |
| 93 | 10/24/77 | 5 | 8.5 | 4.8 | 6.7 | 2ND | S/O UNIVERSITY | W | 1.8 |
| 94 | 10/25/77 | 5 | 3.6 | .0 | .0 | 2ND | S/O UNIVERSITY | W | .0 |
| 95 | 10/26/77 | 5 | 5.2 | 6.1 | 5.7 | 2ND | S/O UNIVERSITY | W | .9 |
| 96 | 10/27/77 | 5 | 17.0 | 10.3 | 13.7 | 2ND | S/O UNIVERSITY | W | 1.7 |
| 97 | 10/28/77 | 5 | 11.8 | 12.0 | 11.9 | 2ND | S/O UNIVERSITY | W | 1.0 |
| 98 | 10/31/77 | 5 | 4.2 | 5.9 | 5.1 | 2ND | S/O UNIVERSITY | W | .7 |
| 99 | 11/01/77 | 5 | 2.0 | 2.5 | 2.2 | 2ND | S/O UNIVERSITY | W | .8 |
| 100 | 11/02/77 | 5 | 3.0 | 5.4 | 4.2 | 2ND | S/O UNIVERSITY | W | .6 |
| 101 | 10/06/77 | 6 | 5.7 | 4.0 | 4.9 | 2ND | S/O UNIVERSITY | E | 1.4 |
| 102 | 10/07/77 | 6 | 2.9 | 2.2 | 2.6 | 2ND | S/O UNIVERSITY | E | 1.3 |
| 103 | 10/10/77 | 6 | 6.1 | 8.7 | 7.4 | 2ND | S/O UNIVERSITY | E | .7 |
| 104 | 10/11/77 | 6 | 6.1 | 2.9 | 4.5 | 2ND | S/O UNIVERSITY | E | 2.1 |
| 105 | 10/12/77 | 6 | 4.0 | 3.7 | 3.9 | 2ND | S/O UNIVERSITY | E | 1.1 |
| 106 | 10/13/77 | 6 | 7.0 | 7.7 | 7.4 | 2ND | S/O UNIVERSITY | E | .9 |
| 107 | 10/14/77 | 6 | 5.6 | 5.9 | 5.8 | 2ND | S/O UNIVERSITY | E | .9 |
| 108 | 10/17/77 | 6 | 7.0 | 2.2 | 4.6 | 2ND | S/O UNIVERSITY | E | 3.2 |
| 109 | 10/18/77 | 6 | 3.1 | 4.9 | 4.0 | 2ND | S/O UNIVERSITY | E | .6 |
| 110 | 10/19/77 | 6 | 7.8 | 8.0 | 7.9 | 2ND | S/O UNIVERSITY | E | 1.0 |
| 111 | 10/20/77 | 6 | 6.1 | 5.0 | 5.6 | 2ND | S/O UNIVERSITY | E | 1.2 |
| 112 | 10/21/77 | 6 | 4.3 | 6.2 | 5.3 | 2ND | S/O UNIVERSITY | E | .7 |
| 113 | 10/24/77 | 6 | 4.3 | 1.6 | 3.0 | 2ND | S/O UNIVERSITY | E | 2.7 |
| 114 | 10/25/77 | 6 | 1.5 | 3.9 | 2.7 | 2ND | S/O UNIVERSITY | E | .4 |
| 115 | 10/26/77 | 6 | 2.1 | 3.0 | 2.5 | 2ND | S/O UNIVERSITY | E | .7 |
| 116 | 10/27/77 | 6 | 6.5 | 3.6 | 5.1 | 2ND | S/O UNIVERSITY | E | 1.8 |
| 117 | 10/28/77 | 6 | 5.2 | 7.9 | 6.6 | 2ND | S/O UNIVERSITY | E | .7 |
| 118 | 10/31/77 | 6 | 2.1 | 2.7 | 2.4 | 2ND | S/O UNIVERSITY | E | .8 |
| 119 | 11/01/77 | 6 | 1.2 | .0 | .0 | 2ND | S/O UNIVERSITY | E | .0 |
| 120 | 11/02/77 | 6 | 1.3 | 2.6 | 2.0 | 2ND | S/O UNIVERSITY | E | .5 |

| RECNO | DATE | STUDY SITE | AM1/ | PM2/ | AVC3/ | MAIN ST. | CROSS ST. | SIDE | RATIO AM/PM |
|---|---|---|---|---|---|---|---|---|---|
| 121 | 10/06/77 | 7 | 11.5 | 11.1 | 11.3 | 3RD | S/O UNION | U | 1.0 |
| 122 | 10/07/77 | 7 | 10.5 | 12.1 | 11.3 | 3RD | S/O UNION | U | .9 |
| 123 | 10/10/77 | 7 | 15.0 | 10.8 | 12.9 | 3RD | S/O UNION | U | 1.4 |
| 124 | 10/11/77 | 7 | 10.1 | 10.2 | 10.2 | 3RD | S/O UNION | U | 1.0 |
| 125 | 10/12/77 | 7 | .0 | 8.6 | .0 | 3RD | S/O UNION | U | .0 |
| 126 | 10/13/77 | 7 | 5.6 | 6.0 | 5.8 | 3RD | S/O UNION | U | .9 |
| 127 | 10/14/77 | 7 | 6.1 | 8.1 | 7.1 | 3RD | S/O UNION | U | .8 |
| 128 | 10/17/77 | 7 | 6.9 | 11.0 | 9.0 | 3RD | S/O UNION | U | .6 |
| 129 | 10/18/77 | 7 | 9.2 | 11.1 | 10.2 | 3RD | S/O UNION | U | .8 |
| 130 | 10/19/77 | 7 | 5.5 | 7.2 | 6.4 | 3RD | S/O UNION | U | .8 |
| 131 | 10/20/77 | 7 | 7.0 | 7.2 | 7.1 | 3RD | S/O UNION | U | 1.0 |
| 132 | 10/21/77 | 7 | 9.8 | 12.2 | 11.0 | 3RD | S/O UNION | U | .8 |
| 133 | 10/24/77 | 7 | 5.0 | 4.1 | 4.6 | 3RD | S/O UNION | U | 1.2 |
| 134 | 10/25/77 | 7 | 5.1 | .0 | .0 | 3RD | S/O UNION | U | .0 |
| 135 | 10/26/77 | 7 | 7.3 | .0 | .0 | 3RD | S/O UNION | U | .0 |
| 136 | 10/27/77 | 7 | 12.3 | 8.9 | 10.6 | 3RD | S/O UNION | U | 1.4 |
| 137 | 10/28/77 | 7 | 16.8 | 12.1 | 14.5 | 3RD | S/O UNION | U | 1.4 |
| 138 | 10/31/77 | 7 | 7.1 | .0 | .0 | 3RD | S/O UNION | U | .0 |
| 139 | 11/01/77 | 7 | 3.8 | .0 | .0 | 3RD | S/O UNION | U | .0 |
| 140 | 11/02/77 | 7 | 4.9 | .0 | .0 | 3RD | S/O UNION | U | .0 |
| 141 | 10/06/77 | 8 | 9.0 | .0 | .0 | 4TH | S/O PIKE | U | .0 |
| 142 | 10/07/77 | 8 | 7.2 | 11.9 | 9.6 | 4TH | S/O PIKE | U | .6 |
| 143 | 10/10/77 | 8 | 8.5 | 7.8 | 8.2 | 4TH | S/O PIKE | U | 1.1 |
| 144 | 10/11/77 | 8 | 6.4 | 7.2 | 6.8 | 4TH | S/O PIKE | U | .9 |
| 145 | 10/12/77 | 8 | 9.7 | .0 | .0 | 4TH | S/O PIKE | U | .0 |
| 146 | 10/13/77 | 8 | 4.0 | 4.6 | 4.3 | 4TH | S/O PIKE | U | .9 |
| 147 | 10/14/77 | 8 | 3.2 | .0 | .0 | 4TH | S/O PIKE | U | .0 |
| 148 | 10/17/77 | 8 | 5.0 | 11.1 | 8.1 | 4TH | S/O PIKE | U | .5 |
| 149 | 10/18/77 | 8 | 6.9 | 9.5 | 8.2 | 4TH | S/O PIKE | U | .7 |
| 150 | 10/19/77 | 8 | 4.0 | 4.5 | 4.3 | 4TH | S/O PIKE | U | .9 |
| 151 | 10/20/77 | 8 | 4.8 | 12.0 | 8.4 | 4TH | S/O PIKE | U | .4 |
| 152 | 10/21/77 | 8 | 9.6 | 11.1 | 10.4 | 4TH | S/O PIKE | U | .9 |
| 153 | 10/24/77 | 8 | 6.0 | 5.1 | 5.6 | 4TH | S/O PIKE | U | 1.2 |
| 154 | 10/25/77 | 8 | 5.5 | 6.1 | 5.8 | 4TH | S/O PIKE | U | .9 |
| 155 | 10/26/77 | 8 | 4.5 | 8.0 | 6.3 | 4TH | S/O PIKE | U | .6 |
| 156 | 10/27/77 | 8 | 10.9 | 9.0 | 10.0 | 4TH | S/O PIKE | U | 1.2 |
| 157 | 10/28/77 | 8 | .0 | 14.5 | .0 | 4TH | S/O PIKE | U | .0 |
| 158 | 10/31/77 | 8 | 3.5 | 5.9 | 4.7 | 4TH | S/O PIKE | U | .6 |
| 159 | 11/01/77 | 8 | 3.8 | 4.0 | 3.9 | 4TH | S/O PIKE | U | 1.0 |
| 160 | 11/02/77 | 8 | 4.8 | 7.0 | 5.9 | 4TH | S/O PIKE | U | .7 |
| 161 | 10/06/77 | 9 | 9.3 | 9.1 | 9.2 | 4TH | S/O PIKE | E | 1.0 |
| 162 | 10/07/77 | 9 | 4.0 | 5.0 | 4.5 | 4TH | S/O PIKE | E | .8 |
| 163 | 10/10/77 | 9 | .0 | 9.4 | .0 | 4TH | S/O PIKE | E | .0 |
| 164 | 10/11/77 | 9 | 10.2 | 12.1 | 11.2 | 4TH | S/O PIKE | E | .8 |
| 165 | 10/12/77 | 9 | 7.9 | 8.9 | 8.4 | 4TH | S/O PIKE | E | .9 |
| 166 | 10/13/77 | 9 | 8.6 | 8.6 | 8.6 | 4TH | S/O PIKE | E | 1.0 |
| 167 | 10/14/77 | 9 | 9.7 | 15.0 | 12.4 | 4TH | S/O PIKE | E | .6 |
| 168 | 10/17/77 | 9 | 9.7 | 5.1 | 7.4 | 4TH | S/O PIKE | E | 1.9 |
| 169 | 10/18/77 | 9 | 5.0 | 6.2 | 5.6 | 4TH | S/O PIKE | E | .8 |
| 170 | 10/19/77 | 9 | 10.9 | 11.2 | 11.1 | 4TH | S/O PIKE | E | 1.0 |
| 171 | 10/20/77 | 9 | 8.4 | 8.0 | 8.2 | 4TH | S/O PIKE | E | 1.0 |
| 172 | 10/21/77 | 9 | 9.3 | 11.3 | 10.3 | 4TH | S/O PIKE | E | .8 |
| 173 | 10/24/77 | 9 | 9.2 | 6.4 | 7.8 | 4TH | S/O PIKE | E | 1.4 |
| 174 | 10/25/77 | 9 | 6.0 | 10.1 | 8.1 | 4TH | S/O PIKE | E | .6 |
| 175 | 10/26/77 | 9 | 7.8 | 9.3 | 8.6 | 4TH | S/O PIKE | E | .8 |
| 176 | 10/27/77 | 9 | 10.3 | 6.1 | 8.2 | 4TH | S/O PIKE | E | 1.7 |
| 177 | 10/28/77 | 9 | 10.8 | 17.1 | 14.0 | 4TH | S/O PIKE | E | .6 |
| 178 | 10/31/77 | 9 | 9.0 | 8.6 | 8.8 | 4TH | S/O PIKE | E | 1.0 |
| 179 | 11/01/77 | 9 | 4.5 | 5.2 | 4.9 | 4TH | S/O PIKE | E | .9 |
| 180 | 11/02/77 | 9 | 6.2 | 8.8 | 7.5 | 4TH | S/O PIKE | E | .7 |

| RECNO | DATE | STUDY SITE | AM$^{1/}$ | PM$^{2/}$ | AVG$^{3/}$ | MAIN ST. | CROSS ST. | SIDE | RATIO AM/PM |
|---|---|---|---|---|---|---|---|---|---|
| 181 | 10/06/77 | 10 | 10.0 | 12.8 | 11.4 | 4TH | S/O UNION | W | .8 |
| 182 | 10/07/77 | 10 | .0 | .0 | .0 | 4TH | S/O UNION | W | .0 |
| 183 | 10/10/77 | 10 | 9.0 | 8.3 | 8.7 | 4TH | S/O UNION | W | 1.1 |
| 184 | 10/11/77 | 10 | 5.6 | 7.0 | 6.3 | 4TH | S/O UNION | W | .8 |
| 185 | 10/12/77 | 10 | 12.5 | 12.2 | 12.4 | 4TH | S/O UNION | W | 1.0 |
| 186 | 10/13/77 | 10 | 4.2 | 4.8 | 4.5 | 4TH | S/O UNION | W | .9 |
| 187 | 10/14/77 | 10 | 6.6 | 6.0 | 6.3 | 4TH | S/O UNION | W | 1.1 |
| 188 | 10/17/77 | 10 | 3.8 | 7.3 | 5.6 | 4TH | S/O UNION | W | .5 |
| 189 | 10/18/77 | 10 | 7.5 | 11.2 | 9.4 | 4TH | S/O UNION | W | .7 |
| 190 | 10/19/77 | 10 | 4.9 | 6.1 | 5.5 | 4TH | S/O UNION | W | .8 |
| 191 | 10/20/77 | 10 | 5.5 | 11.8 | 8.7 | 4TH | S/O UNION | W | .5 |
| 192 | 10/21/77 | 10 | 12.1 | 17.8 | 15.0 | 4TH | S/O UNION | W | .7 |
| 193 | 10/24/77 | 10 | 9.9 | 5.7 | 7.8 | 4TH | S/O UNION | W | 1.7 |
| 194 | 10/25/77 | 10 | 5.8 | 2.8 | 4.3 | 4TH | S/O UNION | W | 2.1 |
| 195 | 10/26/77 | 10 | 8.0 | 9.1 | 8.6 | 4TH | S/O UNION | W | .9 |
| 196 | 10/27/77 | 10 | 13.0 | 8.9 | 11.0 | 4TH | S/O UNION | W | 1.5 |
| 197 | 10/28/77 | 10 | 14.4 | 15.6 | 15.0 | 4TH | S/O UNION | W | .9 |
| 198 | 10/31/77 | 10 | .0 | 9.6 | .0 | 4TH | S/O UNION | W | .0 |
| 199 | 11/01/77 | 10 | 3.9 | 4.3 | 4.1 | 4TH | S/O UNION | W | .9 |
| 200 | 11/02/77 | 10 | 5.1 | 11.0 | 8.1 | 4TH | S/O UNION | W | .5 |
| 201 | 10/06/77 | 11 | 9.0 | 8.0 | 8.5 | 4TH | S/O MADISON | W | 1.1 |
| 202 | 10/07/77 | 11 | .0 | .0 | .0 | 4TH | S/O MADISON | W | .0 |
| 203 | 10/10/77 | 11 | 12.6 | 10.1 | 11.4 | 4TH | S/O MADISON | W | 1.2 |
| 204 | 10/11/77 | 11 | 5.1 | 7.1 | 6.1 | 4TH | S/O MADISON | W | .7 |
| 205 | 10/12/77 | 11 | 7.1 | 6.8 | 7.0 | 4TH | S/O MADISON | W | 1.0 |
| 206 | 10/13/77 | 11 | 3.1 | 3.1 | 3.1 | 4TH | S/O MADISON | W | 1.0 |
| 207 | 10/14/77 | 11 | 4.5 | 4.9 | 4.7 | 4TH | S/O MADISON | W | .9 |
| 208 | 10/17/77 | 11 | 3.2 | 8.6 | 5.9 | 4TH | S/O MADISON | W | .4 |
| 209 | 10/18/77 | 11 | 8.5 | 9.9 | 9.2 | 4TH | S/O MADISON | W | .9 |
| 210 | 10/19/77 | 11 | 6.5 | 4.8 | 5.7 | 4TH | S/O MADISON | W | 1.4 |
| 211 | 10/20/77 | 11 | 5.0 | 9.5 | 7.3 | 4TH | S/O MADISON | W | .5 |
| 212 | 10/21/77 | 11 | 8.3 | 9.9 | 9.1 | 4TH | S/O MADISON | W | .8 |
| 213 | 10/24/77 | 11 | 7.0 | 3.7 | 5.4 | 4TH | S/O MADISON | W | 1.9 |
| 214 | 10/25/77 | 11 | 4.0 | 4.8 | 4.4 | 4TH | S/O MADISON | W | .8 |
| 215 | 10/26/77 | 11 | 9.6 | 7.0 | 8.3 | 4TH | S/O MADISON | W | 1.4 |
| 216 | 10/27/77 | 11 | 10.1 | 8.1 | 9.1 | 4TH | S/O MADISON | W | 1.2 |
| 217 | 10/28/77 | 11 | 9.5 | 12.0 | 10.8 | 4TH | S/O MADISON | W | .8 |
| 218 | 10/31/77 | 11 | 5.1 | 8.3 | 6.7 | 4TH | S/O MADISON | W | .6 |
| 219 | 11/01/77 | 11 | 2.9 | 3.1 | 3.0 | 4TH | S/O MADISON | W | .9 |
| 220 | 11/02/77 | 11 | 2.5 | 6.5 | 4.5 | 4TH | S/O MADISON | W | .4 |
| 221 | 10/06/77 | 12 | 8.1 | 5.8 | 7.0 | 4TH | S/O CHERRY | W | 1.4 |
| 222 | 10/07/77 | 12 | 5.0 | .0 | .0 | 4TH | S/O CHERRY | W | .0 |
| 223 | 10/10/77 | 12 | 4.8 | 5.5 | 5.2 | 4TH | S/O CHERRY | W | .9 |
| 224 | 10/11/77 | 12 | 4.0 | 5.1 | 4.6 | 4TH | S/O CHERRY | W | .8 |
| 225 | 10/12/77 | 12 | 5.2 | 5.0 | 5.1 | 4TH | S/O CHERRY | W | 1.0 |
| 226 | 10/13/77 | 12 | 3.9 | 4.0 | 4.0 | 4TH | S/O CHERRY | W | 1.0 |
| 227 | 10/14/77 | 12 | 3.5 | 4.0 | 3.7 | 4TH | S/O CHERRY | W | .9 |
| 228 | 10/17/77 | 12 | 4.0 | 9.1 | 6.6 | 4TH | S/O CHERRY | W | .4 |
| 229 | 10/18/77 | 12 | 5.4 | 6.8 | 6.1 | 4TH | S/O CHERRY | W | .8 |
| 230 | 10/19/77 | 12 | 4.9 | .0 | .0 | 4TH | S/O CHERRY | W | .0 |
| 231 | 10/20/77 | 12 | 5.7 | 7.9 | 6.8 | 4TH | S/O CHERRY | W | .7 |
| 232 | 10/21/77 | 12 | 6.9 | 5.0 | 6.0 | 4TH | S/O CHERRY | W | 1.4 |
| 233 | 10/24/77 | 12 | 7.3 | 2.5 | 4.9 | 4TH | S/O CHERRY | W | 2.9 |
| 234 | 10/25/77 | 12 | .0 | 4.9 | .0 | 4TH | S/O CHERRY | W | .0 |
| 235 | 10/26/77 | 12 | 5.0 | 5.0 | 5.0 | 4TH | S/O CHERRY | W | 1.0 |
| 236 | 10/27/77 | 12 | .0 | 7.0 | .0 | 4TH | S/O CHERRY | W | .0 |
| 237 | 10/28/77 | 12 | 10.0 | 10.5 | 10.3 | 4TH | S/O CHERRY | W | 1.0 |
| 238 | 10/31/77 | 12 | 3.0 | .0 | .0 | 4TH | S/O CHERRY | W | .0 |
| 239 | 11/01/77 | 12 | 1.0 | .9 | 1.0 | 4TH | S/O CHERRY | W | 1.1 |
| 240 | 11/02/77 | 12 | 1.3 | 2.4 | 1.9 | 4TH | S/O CHERRY | W | .5 |

| RECNO | DATE | STUDY SITE | AM[1] | PM[2] | AVC[3] | MAIN ST. | CROSS ST. | SIDE | RATIO AM/PM |
|---|---|---|---|---|---|---|---|---|---|
| 241 | 10/06/77 | 13 | 4.9 | .0 | .0 | 4TH | S/0 LENORA | E | .0 |
| 242 | 10/07/77 | 13 | 5.1 | .0 | .0 | 4TH | S/0 LENORA | E | .0 |
| 243 | 10/10/77 | 13 | .0 | 7.1 | .0 | 4TH | S/0 LENORA | E | .0 |
| 244 | 10/11/77 | 13 | .0 | 8.1 | .0 | 4TH | S/0 LENORA | E | .0 |
| 245 | 10/12/77 | 13 | 5.7 | 2.6 | 4.2 | 4TH | S/0 LENORA | E | 2.2 |
| 246 | 10/13/77 | 13 | .0 | 8.3 | .0 | 4TH | S/0 LENORA | E | .0 |
| 247 | 10/14/77 | 13 | 4.9 | 9.0 | 7.0 | 4TH | S/0 LENORA | E | .5 |
| 245 | 10/17/77 | 13 | 5.2 | 5.0 | 5.1 | 4TH | S/0 LENORA | E | 1.0 |
| 249 | 10/18/77 | 13 | 7.8 | 4.9 | 6.4 | 4TH | S/0 LENORA | E | 1.6 |
| 250 | 10/19/77 | 13 | 6.3 | 4.9 | 5.6 | 4TH | S/0 LENORA | E | 1.3 |
| 251 | 10/20/77 | 13 | 5.6 | 3.9 | 4.7 | 4TH | S/0 LENORA | E | 1.4 |
| 252 | 10/21/77 | 13 | 3.9 | 5.0 | 4.5 | 4TH | S/0 LENORA | E | .8 |
| 253 | 10/24/77 | 13 | 3.5 | 1.7 | 2.6 | 4TH | S/0 LENORA | E | 2.1 |
| 254 | 10/25/77 | 13 | .0 | 2.5 | .0 | 4TH | S/0 LENORA | E | .0 |
| 255 | 10/26/77 | 13 | 2.0 | 2.9 | 2.5 | 4TH | S/0 LENORA | E | .7 |
| 256 | 10/27/77 | 13 | 8.0 | 2.2 | 5.1 | 4TH | S/0 LENORA | E | 3.6 |
| 257 | 10/28/77 | 13 | 6.3 | 6.1 | 6.2 | 4TH | S/0 LENORA | E | 1.0 |
| 258 | 10/31/77 | 13 | 2.2 | 2.3 | 2.2 | 4TH | S/0 LENORA | E | 1.0 |
| 259 | 11/01/77 | 13 | 1.0 | .9 | 1.0 | 4TH | S/0 LENORA | E | 1.1 |
| 260 | 11/02/77 | 13 | 1.3 | 2.4 | 1.9 | 4TH | S/0 LENORA | E | .5 |
| 261 | 10/06/77 | 14 | 5.0 | 4.0 | 4.5 | 4TH | S/0 PINE | E | 1.2 |
| 262 | 10/07/77 | 14 | 6.0 | 3.0 | 4.5 | 4TH | S/0 PINE | E | 2.0 |
| 263 | 10/10/77 | 14 | 4.2 | 4.8 | 4.5 | 4TH | S/0 PINE | E | .9 |
| 264 | 10/11/77 | 14 | 4.4 | 5.9 | 5.2 | 4TH | S/0 PINE | E | .7 |
| 265 | 10/12/77 | 14 | 4.0 | 5.0 | 4.5 | 4TH | S/0 PINE | E | .8 |
| 266 | 10/13/77 | 14 | .0 | 3.6 | .0 | 4TH | S/0 PINE | E | .0 |
| 267 | 10/14/77 | 14 | 4.6 | 6.8 | 5.7 | 4TH | S/0 PINE | E | .7 |
| 268 | 10/17/77 | 14 | 3.9 | 3.0 | 3.5 | 4TH | S/0 PINE | E | 1.3 |
| 269 | 10/18/77 | 14 | 3.5 | 4.2 | 3.8 | 4TH | S/0 PINE | E | .8 |
| 270 | 10/19/77 | 14 | 3.6 | 3.3 | 3.5 | 4TH | S/0 PINE | E | 1.1 |
| 271 | 10/20/77 | 14 | 3.8 | 4.9 | 4.4 | 4TH | S/0 PINE | E | .8 |
| 272 | 10/21/77 | 14 | 4.4 | 5.0 | 4.7 | 4TH | S/0 PINE | E | .9 |
| 273 | 10/24/77 | 14 | 4.5 | 2.0 | 3.2 | 4TH | S/0 PINE | E | 2.2 |
| 274 | 10/25/77 | 14 | 2.0 | 3.5 | 2.7 | 4TH | S/0 PINE | E | .6 |
| 275 | 10/26/77 | 14 | 2.8 | 2.2 | 2.5 | 4TH | S/0 PINE | E | 1.3 |
| 276 | 10/27/77 | 14 | 5.6 | 3.2 | 4.4 | 4TH | S/0 PINE | E | 1.7 |
| 277 | 10/28/77 | 14 | 6.5 | 8.1 | 7.3 | 4TH | S/0 PINE | E | .8 |
| 278 | 10/31/77 | 14 | 3.0 | 3.0 | 3.0 | 4TH | S/0 PINE | E | 1.0 |
| 279 | 11/01/77 | 14 | 1.7 | 1.1 | 1.4 | 4TH | S/0 PINE | E | 1.5 |
| 280 | 11/02/77 | 14 | 1.9 | 3.0 | 2.5 | 4TH | S/0 PINE | E | .6 |
| 281 | 10/06/77 | 15 | 6.0 | 4.0 | 5.0 | 5TH | S/0 PINE | E | 1.5 |
| 282 | 10/07/77 | 15 | 4.0 | 3.1 | 3.5 | 5TH | S/0 PINE | E | 1.3 |
| 283 | 10/10/77 | 15 | 7.0 | 6.5 | 6.8 | 5TH | S/0 PINE | E | 1.1 |
| 284 | 10/11/77 | 15 | 6.5 | 10.0 | 8.3 | 5TH | S/0 PINE | E | .6 |
| 285 | 10/12/77 | 15 | 5.0 | 4.9 | 5.0 | 5TH | S/0 PINE | E | 1.0 |
| 286 | 10/13/77 | 15 | 4.2 | 5.0 | 4.6 | 5TH | S/0 PINE | E | .8 |
| 287 | 10/14/77 | 15 | 5.0 | 7.9 | 6.5 | 5TH | S/0 PINE | E | .6 |
| 288 | 10/17/77 | 15 | 7.9 | 10.0 | 9.0 | 5TH | S/0 PINE | E | .8 |
| 289 | 10/18/77 | 15 | 5.0 | 5.1 | 5.1 | 5TH | S/0 PINE | E | 1.0 |
| 290 | 10/19/77 | 15 | 6.9 | 6.3 | 6.6 | 5TH | S/0 PINE | E | 1.1 |
| 291 | 10/20/77 | 15 | 7.1 | .0 | .0 | 5TH | S/0 PINE | E | .0 |
| 292 | 10/21/77 | 15 | 5.2 | 7.0 | 6.1 | 5TH | S/0 PINE | E | .7 |
| 293 | 10/24/77 | 15 | 4.2 | 2.1 | 3.1 | 5TH | S/0 PINE | E | 2.0 |
| 294 | 10/25/77 | 15 | 2.4 | 5.0 | 3.7 | 5TH | S/0 PINE | E | .5 |
| 295 | 10/26/77 | 15 | 2.8 | .0 | .0 | 5TH | S/0 PINE | E | .0 |
| 296 | 10/27/77 | 15 | 11.0 | 4.2 | 7.6 | 5TH | S/0 PINE | E | 2.6 |
| 297 | 10/28/77 | 15 | 9.5 | 11.1 | 10.3 | 5TH | S/0 PINE | E | .9 |
| 298 | 10/31/77 | 15 | 2.9 | 3.5 | 3.2 | 5TH | S/0 PINE | E | .8 |
| 299 | 11/01/77 | 15 | 1.5 | 1.3 | 1.4 | 5TH | S/0 PINE | E | 1.2 |
| 300 | 11/02/77 | 15 | 1.9 | 3.9 | 2.9 | 5TH | S/0 PINE | E | .5 |

| RECNO | DATE | STUDY SITE | AM[1]/ | PM[2]/ | AVC[3]/ | MAIN ST. | CROSS ST. | SIDE | RATIO AM/PM |
|---|---|---|---|---|---|---|---|---|---|
| 301 | 10/06/77 | 16 | 10.0 | 9.9 | 10.0 | 3RD | S/O CHERRY | U | 1.0 |
| 302 | 10/07/77 | 16 | 8.0 | 10.0 | 9.0 | 3RD | S/O CHERRY | U | .8 |
| 303 | 10/10/77 | 16 | 9.0 | .0 | .0 | 3RD | S/O CHERRY | U | .0 |
| 304 | 10/11/77 | 16 | 6.1 | 9.9 | 8.0 | 3RD | S/O CHERRY | U | .6 |
| 305 | 10/12/77 | 16 | 8.0 | 6.1 | 7.1 | 3RD | S/O CHERRY | U | 1.3 |
| 306 | 10/13/77 | 16 | 3.4 | 5.0 | 4.2 | 3RD | S/O CHERRY | U | .7 |
| 307 | 10/14/77 | 16 | 3.0 | 8.0 | 5.5 | 3RD | S/O CHERRY | U | .4 |
| 308 | 10/17/77 | 16 | 5.3 | 8.5 | 6.9 | 3RD | S/O CHERRY | U | .6 |
| 309 | 10/18/77 | 16 | 7.8 | 11.5 | 9.7 | 3RD | S/O CHERRY | U | .7 |
| 310 | 10/19/77 | 16 | 5.8 | 6.2 | 6.0 | 3RD | S/O CHERRY | U | .9 |
| 311 | 10/20/77 | 16 | 7.3 | 9.8 | 8.6 | 3RD | S/O CHERRY | U | .7 |
| 312 | 10/21/77 | 16 | 7.9 | 9.2 | 8.6 | 3RD | S/O CHERRY | U | .9 |
| 313 | 10/24/77 | 16 | 6.0 | 4.6 | 5.3 | 3RD | S/O CHERRY | U | 1.3 |
| 314 | 10/25/77 | 16 | 3.2 | 8.8 | 6.0 | 3RD | S/O CHERRY | U | .4 |
| 315 | 10/26/77 | 16 | 5.5 | 6.2 | 5.9 | 3RD | S/O CHERRY | U | .9 |
| 316 | 10/27/77 | 16 | 10.4 | 7.8 | 9.1 | 3RD | S/O CHERRY | U | 1.3 |
| 317 | 10/28/77 | 16 | .0 | .0 | .0 | 3RD | S/O CHERRY | U | .0 |
| 318 | 10/31/77 | 16 | 5.8 | 4.5 | 5.2 | 3RD | S/O CHERRY | U | 1.3 |
| 319 | 11/01/77 | 16 | 2.3 | 1.8 | 2.0 | 3RD | S/O CHERRY | U | 1.3 |
| 320 | 11/02/77 | 16 | 4.2 | 6.0 | 5.1 | 3RD | S/O CHERRY | U | .7 |
| 321 | 10/06/77 | 17 | 7.3 | 9.0 | 8.2 | 6TH | S/O PINE | E | .8 |
| 322 | 10/07/77 | 17 | 6.7 | 9.1 | 7.9 | 6TH | S/O PINE | E | .7 |
| 323 | 10/10/77 | 17 | 8.7 | 9.8 | 9.3 | 6TH | S/O PINE | E | .9 |
| 324 | 10/11/77 | 17 | 7.9 | 11.2 | 9.6 | 6TH | S/O PINE | E | .7 |
| 325 | 10/12/77 | 17 | 8.8 | 8.6 | 8.7 | 6TH | S/O PINE | E | 1.0 |
| 326 | 10/13/77 | 17 | 7.2 | 8.2 | 7.7 | 6TH | S/O PINE | E | .9 |
| 327 | 10/14/77 | 17 | 10.1 | 10.9 | 10.5 | 6TH | S/O PINE | E | .9 |
| 328 | 10/17/77 | 17 | 5.6 | 4.9 | 5.3 | 6TH | S/O PINE | E | 1.1 |
| 329 | 10/18/77 | 17 | 9.5 | 8.8 | 9.2 | 6TH | S/O PINE | E | 1.1 |
| 330 | 10/19/77 | 17 | 9.0 | 9.6 | 9.3 | 6TH | S/O PINE | E | .9 |
| 331 | 10/20/77 | 17 | 10.2 | 8.1 | 9.2 | 6TH | S/O PINE | E | 1.3 |
| 332 | 10/21/77 | 17 | 10.1 | 11.1 | 10.6 | 6TH | S/O PINE | E | .9 |
| 333 | 10/24/77 | 17 | 6.1 | 4.6 | 5.4 | 6TH | S/O PINE | E | 1.3 |
| 334 | 10/25/77 | 17 | 5.4 | 6.5 | 6.0 | 6TH | S/O PINE | E | .8 |
| 335 | 10/26/77 | 17 | .0 | 7.0 | .0 | 6TH | S/O PINE | E | .0 |
| 336 | 10/27/77 | 17 | 15.4 | 8.5 | 12.0 | 6TH | S/O PINE | E | 1.8 |
| 337 | 10/28/77 | 17 | 10.3 | 12.8 | 11.6 | 6TH | S/O PINE | E | .8 |
| 338 | 10/31/77 | 17 | 5.9 | 5.1 | 5.5 | 6TH | S/O PINE | E | 1.2 |
| 339 | 11/01/77 | 17 | 4.3 | 3.2 | 3.8 | 6TH | S/O PINE | E | 1.3 |
| 340 | 11/02/77 | 17 | 4.1 | 2.5 | 3.3 | 6TH | S/O PINE | E | 1.6 |
| 341 | 10/06/77 | 18 | 6.2 | 3.5 | 4.9 | 6TH | S/O COLUMBIA | U | 1.8 |
| 342 | 10/07/77 | 18 | 3.2 | 4.5 | 3.9 | 6TH | S/O COLUMBIA | U | .7 |
| 343 | 10/10/77 | 18 | 4.0 | 5.5 | 4.8 | 6TH | S/O COLUMBIA | U | .7 |
| 344 | 10/11/77 | 18 | 5.2 | 5.1 | 5.2 | 6TH | S/O COLUMBIA | U | 1.0 |
| 345 | 10/12/77 | 18 | 5.1 | 2.3 | 3.7 | 6TH | S/O COLUMBIA | U | 2.2 |
| 346 | 10/13/77 | 18 | 5.8 | 5.2 | 5.5 | 6TH | S/O COLUMBIA | U | 1.1 |
| 347 | 10/14/77 | 18 | 4.7 | 6.0 | 5.4 | 6TH | S/O COLUMBIA | U | .8 |
| 348 | 10/17/77 | 18 | .0 | 4.1 | .0 | 6TH | S/O COLUMBIA | U | .0 |
| 349 | 10/18/77 | 18 | 3.6 | 4.8 | 4.2 | 6TH | S/O COLUMBIA | U | .8 |
| 350 | 10/19/77 | 18 | 5.2 | 6.4 | 5.8 | 6TH | S/O COLUMBIA | U | .8 |
| 351 | 10/20/77 | 18 | 4.4 | 4.9 | 4.7 | 6TH | S/O COLUMBIA | U | .9 |
| 352 | 10/21/77 | 18 | 3.0 | .0 | .0 | 6TH | S/O COLUMBIA | U | .0 |
| 353 | 10/24/77 | 18 | 4.5 | 1.9 | 3.2 | 6TH | S/O COLUMBIA | U | 2.4 |
| 354 | 10/25/77 | 18 | 1.1 | 3.0 | 2.0 | 6TH | S/O COLUMBIA | U | .4 |
| 355 | 10/26/77 | 18 | 2.5 | 2.9 | 2.7 | 6TH | S/O COLUMBIA | U | .9 |
| 356 | 10/27/77 | 18 | 7.5 | 3.5 | 5.5 | 6TH | S/O COLUMBIA | U | 2.1 |
| 357 | 10/28/77 | 18 | 7.0 | 7.8 | 7.4 | 6TH | S/O COLUMBIA | U | .9 |
| 358 | 10/31/77 | 18 | 1.6 | 5.1 | 3.3 | 6TH | S/O COLUMBIA | U | .3 |
| 359 | 11/01/77 | 18 | .9 | 1.0 | 1.0 | 6TH | S/O COLUMBIA | U | .9 |
| 360 | 11/02/77 | 18 | 1.7 | 2.0 | 1.8 | 6TH | S/O COLUMBIA | U | .9 |

| RECNO | DATE | STUDY SITE | AM 1/ | PM 2/ | AVC 3/ | MAIN ST. | CROSS ST. | SIDE | RATIO AM/PM |
|---|---|---|---|---|---|---|---|---|---|
| 361 | 10/06/77 | 19 | 11.2 | 14.5 | 12.9 | 6TH | S/O UNION | E | .8 |
| 362 | 10/07/77 | 19 | 9.5 | 13.5 | 11.6 | 6TH | S/O UNION | E | .7 |
| 363 | 10/10/77 | 19 | 11.0 | 10.5 | 10.8 | 6TH | S/O UNION | E | 1.0 |
| 364 | 10/11/77 | 19 | 8.8 | 12.0 | 10.4 | 6TH | S/O UNION | E | .7 |
| 365 | 10/12/77 | 19 | 11.0 | 15.9 | 13.5 | 6TH | S/O UNION | E | .7 |
| 366 | 10/13/77 | 19 | 7.2 | 13.1 | 10.2 | 6TH | S/O UNION | E | .6 |
| 367 | 10/14/77 | 19 | 13.3 | 12.2 | 12.8 | 6TH | S/O UNION | E | 1.1 |
| 368 | 10/17/77 | 19 | 9.2 | 9.0 | 9.1 | 6TH | S/O UNION | E | 1.0 |
| 369 | 10/18/77 | 19 | 8.7 | 10.0 | 9.4 | 6TH | S/O UNION | E | .9 |
| 370 | 10/19/77 | 19 | 9.1 | 13.9 | 11.5 | 6TH | S/O UNION | E | .7 |
| 371 | 10/20/77 | 19 | 8.5 | 14.0 | 11.3 | 6TH | S/O UNION | E | .6 |
| 372 | 10/21/77 | 19 | 11.7 | 14.0 | 12.9 | 6TH | S/O UNION | E | .8 |
| 373 | 10/24/77 | 19 | 10.1 | 5.6 | 7.8 | 6TH | S/O UNION | E | 1.8 |
| 374 | 10/25/77 | 19 | 7.2 | 10.1 | 8.7 | 6TH | S/O UNION | E | .7 |
| 375 | 10/26/77 | 19 | 8.1 | 10.9 | 9.5 | 6TH | S/O UNION | E | .7 |
| 376 | 10/27/77 | 19 | 13.3 | 11.1 | 12.2 | 6TH | S/O UNION | E | 1.2 |
| 377 | 10/28/77 | 19 | 13.6 | 14.1 | 13.9 | 6TH | S/O UNION | E | 1.0 |
| 378 | 10/31/77 | 19 | 8.1 | 10.4 | 9.3 | 6TH | S/O UNION | E | .8 |
| 379 | 11/01/77 | 19 | 4.2 | 6.2 | 5.2 | 6TH | S/O UNION | E | .7 |
| 380 | 11/02/77 | 19 | 6.9 | 9.0 | 8.0 | 6TH | S/O UNION | E | .8 |
| 381 | 10/06/77 | 20 | 4.9 | 3.0 | 4.0 | OCCIDENTAL | S/O WASHINGTON | S | 1.6 |
| 382 | 10/07/77 | 20 | 2.0 | 3.2 | 2.6 | OCCIDENTAL | S/O WASHINGTON | S | .6 |
| 383 | 10/10/77 | 20 | 3.3 | 4.1 | 3.7 | OCCIDENTAL | S/O WASHINGTON | S | .8 |
| 384 | 10/11/77 | 20 | 3.0 | .0 | .0 | OCCIDENTAL | S/O WASHINGTON | S | .0 |
| 385 | 10/12/77 | 20 | 5.5 | 2.2 | 3.9 | OCCIDENTAL | S/O WASHINGTON | S | 2.5 |
| 386 | 10/13/77 | 20 | 2.1 | 2.6 | 2.4 | OCCIDENTAL | S/O WASHINGTON | S | .8 |
| 387 | 10/14/77 | 20 | 2.8 | 5.2 | 4.0 | OCCIDENTAL | S/O WASHINGTON | S | .5 |
| 388 | 10/17/77 | 20 | 3.0 | 3.9 | 3.5 | OCCIDENTAL | S/O WASHINGTON | S | .8 |
| 389 | 10/18/77 | 20 | 3.3 | 4.2 | 3.7 | OCCIDENTAL | S/O WASHINGTON | S | .8 |
| 390 | 10/19/77 | 20 | 3.1 | 4.0 | 3.5 | OCCIDENTAL | S/O WASHINGTON | S | .8 |
| 391 | 10/20/77 | 20 | 4.1 | 4.0 | 4.1 | OCCIDENTAL | S/O WASHINGTON | S | 1.0 |
| 392 | 10/21/77 | 20 | 3.3 | 3.8 | 3.5 | OCCIDENTAL | S/O WASHINGTON | S | .9 |
| 393 | 10/24/77 | 20 | 2.9 | 1.5 | 2.2 | OCCIDENTAL | S/O WASHINGTON | S | 1.9 |
| 394 | 10/25/77 | 20 | 1.2 | 2.2 | 1.7 | OCCIDENTAL | S/O WASHINGTON | S | .5 |
| 395 | 10/26/77 | 20 | 1.8 | 1.9 | 1.9 | OCCIDENTAL | S/O WASHINGTON | S | .9 |
| 396 | 10/27/77 | 20 | 4.0 | 2.9 | 3.5 | OCCIDENTAL | S/O WASHINGTON | S | 1.4 |
| 397 | 10/28/77 | 20 | 3.8 | 4.9 | 4.4 | OCCIDENTAL | S/O WASHINGTON | S | .8 |
| 398 | 10/31/77 | 20 | 1.6 | 2.5 | 2.0 | OCCIDENTAL | S/O WASHINGTON | S | .6 |
| 399 | 11/01/77 | 20 | 3.0 | 1.0 | 2.0 | OCCIDENTAL | S/O WASHINGTON | S | 3.0 |
| 400 | 11/02/77 | 20 | 2.5 | 2.0 | 2.2 | OCCIDENTAL | S/O WASHINGTON | S | 1.2 |
| 401 | 10/20/77 | 21 | 5.4 | 5.4 | 5.4 | 9TH | S/O UNION | E | 1.0 |
| 402 | 10/21/77 | 21 | 4.6 | 3.9 | 4.3 | 9TH | S/O UNION | E | 1.2 |
| 403 | 10/24/77 | 21 | 4.0 | 1.9 | 3.0 | 9TH | S/O UNION | E | 2.1 |
| 404 | 10/25/77 | 21 | 1.8 | 2.3 | 2.0 | 9TH | S/O UNION | E | .8 |
| 405 | 10/26/77 | 21 | 2.2 | 3.0 | 2.6 | 9TH | S/O UNION | E | .7 |
| 406 | 10/27/77 | 21 | 7.4 | 6.0 | 6.7 | 9TH | S/O UNION | E | 1.2 |
| 407 | 10/28/77 | 21 | 8.0 | 6.1 | 7.1 | 9TH | S/O UNION | E | 1.3 |
| 408 | 10/31/77 | 21 | 2.5 | 3.5 | 3.0 | 9TH | S/O UNION | E | .7 |
| 409 | 11/01/77 | 21 | 1.6 | 1.2 | 1.4 | 9TH | S/O UNION | E | 1.3 |
| 410 | 11/02/77 | 21 | 2.0 | 2.9 | 2.5 | 9TH | S/O UNION | E | .7 |

| RECNO | DATE | STUDY SITE | AM1/ | PM2/ | AVC3/ | MAIN ST. | CROSS ST. | SIDE | RATIO AM/PM |
|---|---|---|---|---|---|---|---|---|---|
| 411 | 10/06/77 | 22 | 10.8 | 10.1 | 10.5 | OLIVE | E/O 5TH | S | 1.1 |
| 412 | 10/07/77 | 22 | 11.0 | 7.0 | 9.0 | OLIVE | E/O 5TH | S | 1.6 |
| 413 | 10/10/77 | 22 | 6.8 | 11.1 | 9.0 | OLIVE | E/O 5TH | S | .6 |
| 414 | 10/11/77 | 22 | 5.9 | 6.9 | 6.4 | OLIVE | E/O 5TH | S | .9 |
| 415 | 10/12/77 | 22 | 11.3 | 10.0 | 10.7 | OLIVE | E/O 5TH | S | 1.1 |
| 416 | 10/13/77 | 22 | 5.0 | 3.9 | 4.5 | OLIVE | E/O 5TH | S | 1.3 |
| 417 | 10/14/77 | 22 | 5.0 | 6.2 | 5.6 | OLIVE | E/O 5TH | S | .8 |
| 418 | 10/17/77 | 22 | 4.7 | 7.5 | 6.1 | OLIVE | E/O 5TH | S | .6 |
| 419 | 10/18/77 | 22 | 7.5 | 9.9 | 8.7 | OLIVE | E/O 5TH | S | .8 |
| 420 | 10/19/77 | 22 | 3.9 | 3.9 | 3.9 | OLIVE | E/O 5TH | S | 1.0 |
| 421 | 10/20/77 | 22 | 6.7 | 8.2 | 7.5 | OLIVE | E/O 5TH | S | .8 |
| 422 | 10/21/77 | 22 | 10.4 | 11.3 | 10.9 | OLIVE | E/O 5TH | S | .9 |
| 423 | 10/24/77 | 22 | 11.8 | 5.9 | 8.9 | OLIVE | E/O 5TH | S | 2.0 |
| 424 | 10/25/77 | 22 | 6.7 | 9.2 | 8.0 | OLIVE | E/O 5TH | S | .7 |
| 425 | 10/26/77 | 22 | 9.3 | 8.2 | 8.8 | OLIVE | E/O 5TH | S | 1.1 |
| 426 | 10/27/77 | 22 | 13.7 | 8.6 | 11.2 | OLIVE | E/O 5TH | S | 1.6 |
| 427 | 10/28/77 | 22 | .0 | 10.6 | .0 | OLIVE | E/O 5TH | S | .0 |
| 428 | 10/31/77 | 22 | 8.0 | 11.0 | 9.5 | OLIVE | E/O 5TH | S | .7 |
| 429 | 11/01/77 | 22 | 4.9 | 5.1 | 5.0 | OLIVE | E/O 5TH | S | 1.0 |
| 430 | 11/02/77 | 22 | 6.0 | 9.7 | 7.9 | OLIVE | E/O 5TH | S | .6 |
| 431 | 10/06/77 | 23 | 7.8 | 10.0 | 8.9 | PIKE | E/O 7TH | S | .8 |
| 432 | 10/07/77 | 23 | 6.0 | 5.9 | 6.0 | PIKE | E/O 7TH | S | 1.0 |
| 433 | 10/10/77 | 23 | 5.7 | 8.0 | 6.9 | PIKE | E/O 7TH | S | .7 |
| 434 | 10/11/77 | 23 | 4.2 | 6.2 | 5.2 | PIKE | E/O 7TH | S | .7 |
| 435 | 10/12/77 | 23 | 8.5 | 11.2 | 9.9 | PIKE | E/O 7TH | S | .8 |
| 436 | 10/13/77 | 23 | 3.9 | 5.0 | 4.5 | PIKE | E/O 7TH | S | .8 |
| 437 | 10/14/77 | 23 | 3.8 | 5.9 | 4.9 | PIKE | E/O 7TH | S | .6 |
| 438 | 10/17/77 | 23 | 3.8 | 14.0 | 8.9 | PIKE | E/O 7TH | S | .3 |
| 439 | 10/18/77 | 23 | 5.6 | 7.0 | 6.3 | PIKE | E/O 7TH | S | .8 |
| 440 | 10/19/77 | 23 | 4.8 | 5.9 | 5.4 | PIKE | E/O 7TH | S | .8 |
| 441 | 10/20/77 | 23 | 4.9 | 8.4 | 6.7 | PIKE | E/O 7TH | S | .6 |
| 442 | 10/21/77 | 23 | 8.9 | 13.9 | 11.4 | PIKE | E/O 7TH | S | .6 |
| 443 | 10/24/77 | 23 | 7.3 | 5.5 | 6.4 | PIKE | E/O 7TH | S | 1.3 |
| 444 | 10/25/77 | 23 | 5.7 | .0 | .0 | PIKE | E/O 7TH | S | .0 |
| 445 | 10/26/77 | 23 | 6.2 | 6.5 | 6.4 | PIKE | E/O 7TH | S | 1.0 |
| 446 | 10/27/77 | 23 | 12.9 | 4.2 | 8.6 | PIKE | E/O 7TH | S | 3.1 |
| 447 | 10/28/77 | 23 | 8.7 | 9.3 | 9.0 | PIKE | E/O 7TH | S | .9 |
| 448 | 10/31/77 | 23 | 4.9 | 6.9 | 5.9 | PIKE | E/O 7TH | S | .7 |
| 449 | 11/01/77 | 23 | .0 | 4.0 | .0 | PIKE | E/O 7TH | S | .0 |
| 450 | 11/02/77 | 23 | 2.9 | 7.0 | 5.0 | PIKE | E/O 7TH | S | .4 |
| 451 | 10/06/77 | 24 | .0 | 8.0 | .0 | PIKE | E/O 4TH | S | .0 |
| 452 | 10/07/77 | 24 | 6.2 | 6.1 | 6.2 | PIKE | E/O 4TH | S | 1.0 |
| 453 | 10/10/77 | 24 | 6.0 | 5.1 | 5.6 | PIKE | E/O 4TH | S | 1.2 |
| 454 | 10/11/77 | 24 | 5.0 | 5.1 | 5.1 | PIKE | E/O 4TH | S | 1.0 |
| 455 | 10/12/77 | 24 | 8.4 | 7.2 | 7.8 | PIKE | E/O 4TH | S | 1.2 |
| 456 | 10/13/77 | 24 | 2.9 | 3.6 | 3.3 | PIKE | E/O 4TH | S | .8 |
| 457 | 10/14/77 | 24 | 3.1 | 4.0 | 3.5 | PIKE | E/O 4TH | S | .8 |
| 458 | 10/17/77 | 24 | 3.9 | 7.2 | 5.6 | PIKE | E/O 4TH | S | .5 |
| 459 | 10/18/77 | 24 | .0 | 6.2 | .0 | PIKE | E/O 4TH | S | .0 |
| 460 | 10/19/77 | 24 | 4.4 | 4.9 | 4.7 | PIKE | E/O 4TH | S | .9 |
| 461 | 10/20/77 | 24 | .0 | 5.4 | .0 | PIKE | E/O 4TH | S | .0 |
| 462 | 10/21/77 | 24 | 8.1 | 11.0 | 9.6 | PIKE | E/O 4TH | S | .7 |
| 463 | 10/24/77 | 24 | 5.6 | 4.6 | 5.1 | PIKE | E/O 4TH | S | 1.2 |
| 464 | 10/25/77 | 24 | 4.3 | 8.2 | 6.3 | PIKE | E/O 4TH | S | .5 |
| 465 | 10/26/77 | 24 | 5.5 | 5.9 | 5.7 | PIKE | E/O 4TH | S | .9 |
| 466 | 10/27/77 | 24 | 10.7 | 6.4 | 8.6 | PIKE | E/O 4TH | S | 1.7 |
| 467 | 10/28/77 | 24 | 9.3 | 12.0 | 10.7 | PIKE | E/O 4TH | S | .8 |
| 468 | 10/31/77 | 24 | 4.7 | 7.2 | 6.0 | PIKE | E/O 4TH | S | .7 |
| 469 | 11/01/77 | 24 | 3.0 | 3.3 | 3.2 | PIKE | E/O 4TH | S | .9 |
| 470 | 11/02/77 | 24 | 4.0 | 6.6 | 5.3 | PIKE | E/O 4TH | S | .6 |

| RECNO | DATE | STUDY SITE | AM1/ | PM2/ | AVC3/ | MAIN ST. | CROSS ST. | SIDE | RATIO AM/PM |
|---|---|---|---|---|---|---|---|---|---|
| 471 | 10/06/77 | 25 | 7.0 | 5.9 | 6.5 | PIKE | E/O 4TH | N | 1.2 |
| 472 | 10/07/77 | 25 | 5.0 | 6.0 | 5.5 | PIKE | E/O 4TH | N | .8 |
| 473 | 10/10/77 | 25 | 6.8 | 7.0 | 6.9 | PIKE | E/O 4TH | N | 1.0 |
| 474 | 10/11/77 | 25 | 5.9 | 8.3 | 7.1 | PIKE | E/O 4TH | N | .7 |
| 475 | 10/12/77 | 25 | 5.4 | 5.8 | 5.6 | PIKE | E/O 4TH | N | .9 |
| 476 | 10/13/77 | 25 | 3.5 | 5.9 | 4.7 | PIKE | E/O 4TH | N | .6 |
| 477 | 10/14/77 | 25 | 5.0 | 7.9 | 6.5 | PIKE | E/O 4TH | N | .6 |
| 478 | 10/17/77 | 25 | 5.5 | 7.9 | 6.7 | PIKE | E/O 4TH | N | .7 |
| 479 | 10/18/77 | 25 | 6.0 | 8.9 | 7.5 | PIKE | E/O 4TH | N | .7 |
| 480 | 10/19/77 | 25 | 6.1 | 6.0 | 6.1 | PIKE | E/O 4TH | N | 1.0 |
| 481 | 10/20/77 | 25 | 6.1 | 6.2 | 6.2 | PIKE | E/O 4TH | N | 1.0 |
| 482 | 10/21/77 | 25 | 5.8 | 8.0 | 6.9 | PIKE | E/O 4TH | N | .7 |
| 483 | 10/24/77 | 25 | 5.0 | 3.0 | 4.0 | PIKE | E/O 4TH | N | 1.7 |
| 484 | 10/25/77 | 25 | 3.3 | 5.2 | 4.3 | PIKE | E/O 4TH | N | .6 |
| 485 | 10/26/77 | 25 | 4.2 | 5.2 | 4.7 | PIKE | E/O 4TH | N | .8 |
| 486 | 10/27/77 | 25 | 12.0 | 6.0 | 9.0 | PIKE | E/O 4TH | N | 2.0 |
| 487 | 10/28/77 | 25 | 9.4 | 9.1 | 9.3 | PIKE | E/O 4TH | N | 1.0 |
| 488 | 10/31/77 | 25 | 3.2 | 5.0 | 4.1 | PIKE | E/O 4TH | N | .6 |
| 489 | 11/01/77 | 25 | 2.7 | 2.1 | 2.4 | PIKE | E/O 4TH | N | 1.3 |
| 490 | 11/02/77 | 25 | 3.3 | 4.9 | 4.1 | PIKE | E/O 4TH | N | .7 |
| 491 | 10/06/77 | 26 | 5.0 | 5.1 | 5.1 | PIKE | E/O 3RD | N | 1.0 |
| 492 | 10/07/77 | 26 | 4.1 | 4.2 | 4.2 | PIKE | E/O 3RD | N | 1.0 |
| 493 | 10/10/77 | 26 | .0 | 7.5 | .0 | PIKE | E/O 3RD | N | .0 |
| 494 | 10/11/77 | 26 | 7.5 | 8.4 | 8.0 | PIKE | E/O 3RD | N | .9 |
| 495 | 10/12/77 | 26 | 4.1 | 4.2 | 4.2 | PIKE | E/O 3RD | N | 1.0 |
| 496 | 10/13/77 | 26 | 5.3 | 5.8 | 5.6 | PIKE | E/O 3RD | N | .9 |
| 497 | 10/14/77 | 26 | 6.3 | 10.9 | 8.6 | PIKE | E/O 3RD | N | .6 |
| 498 | 10/17/77 | 26 | 7.0 | 4.8 | 5.9 | PIKE | E/O 3RD | N | 1.5 |
| 499 | 10/18/77 | 26 | 4.5 | 6.1 | 5.3 | PIKE | E/O 3RD | N | .7 |
| 500 | 10/19/77 | 26 | 5.2 | 7.6 | 6.4 | PIKE | E/O 3RD | N | .7 |
| 501 | 10/20/77 | 26 | 5.7 | 5.5 | 5.6 | PIKE | E/O 3RD | N | 1.0 |
| 502 | 10/21/77 | 26 | 5.0 | 5.8 | 5.4 | PIKE | E/O 3RD | N | .9 |
| 503 | 10/24/77 | 26 | 7.0 | 2.3 | 4.7 | PIKE | E/O 3RD | N | 3.0 |
| 504 | 10/25/77 | 26 | 2.2 | .0 | .0 | PIKE | E/O 3RD | N | .0 |
| 505 | 10/26/77 | 26 | 4.0 | .0 | .0 | PIKE | E/O 3RD | N | .0 |
| 506 | 10/27/77 | 26 | 8.0 | 4.5 | 6.3 | PIKE | E/O 3RD | N | 1.8 |
| 507 | 10/28/77 | 26 | 7.1 | 7.0 | 7.1 | PIKE | E/O 3RD | N | 1.0 |
| 508 | 10/31/77 | 26 | 3.0 | 3.8 | 3.4 | PIKE | E/O 3RD | N | .8 |
| 509 | 11/01/77 | 26 | 1.5 | 1.1 | 1.3 | PIKE | E/O 3RD | N | 1.4 |
| 510 | 11/02/77 | 26 | 1.7 | 3.5 | 2.6 | PIKE | E/O 3RD | N | .5 |
| 511 | 10/06/77 | 27 | 5.8 | 6.8 | 6.3 | PIKE | W/O 1ST | S | .9 |
| 512 | 10/07/77 | 27 | 3.5 | 5.9 | 4.7 | PIKE | W/O 1ST | S | .6 |
| 513 | 10/10/77 | 27 | 4.5 | 5.2 | 4.9 | PIKE | W/O 1ST | S | .9 |
| 514 | 10/11/77 | 27 | 4.3 | 4.9 | 4.6 | PIKE | W/O 1ST | S | .9 |
| 515 | 10/12/77 | 27 | 6.0 | 7.0 | 6.5 | PIKE | W/O 1ST | S | .9 |
| 516 | 10/13/77 | 27 | 3.6 | 3.8 | 3.7 | PIKE | W/O 1ST | S | .9 |
| 517 | 10/14/77 | 27 | 5.0 | 5.0 | 5.0 | PIKE | W/O 1ST | S | 1.0 |
| 518 | 10/17/77 | 27 | .0 | .0 | .0 | PIKE | W/O 1ST | S | .0 |
| 519 | 10/18/77 | 27 | 4.0 | .0 | .0 | PIKE | W/O 1ST | S | .0 |
| 520 | 10/19/77 | 27 | 4.1 | 4.6 | 4.4 | PIKE | W/O 1ST | S | .9 |
| 521 | 10/20/77 | 27 | 4.1 | .0 | .0 | PIKE | W/O 1ST | S | .0 |
| 522 | 10/21/77 | 27 | 7.4 | 9.5 | 8.5 | PIKE | W/O 1ST | S | .8 |
| 523 | 10/24/77 | 27 | 5.5 | 3.3 | 4.4 | PIKE | W/O 1ST | S | 1.7 |
| 524 | 10/25/77 | 27 | 3.0 | 5.0 | 4.0 | PIKE | W/O 1ST | S | .6 |
| 525 | 10/26/77 | 27 | 4.3 | 4.9 | 4.6 | PIKE | W/O 1ST | S | .9 |
| 526 | 10/27/77 | 27 | 7.7 | 4.2 | 6.0 | PIKE | W/O 1ST | S | 1.8 |
| 527 | 10/28/77 | 27 | 6.3 | 7.8 | 7.1 | PIKE | W/O 1ST | S | .8 |
| 528 | 10/31/77 | 27 | 3.6 | 5.8 | 4.7 | PIKE | W/O 1ST | S | .6 |
| 529 | 11/01/77 | 27 | 2.0 | 2.1 | 2.0 | PIKE | W/O 1ST | S | 1.0 |
| 530 | 11/02/77 | 27 | 3.3 | 6.0 | 4.7 | PIKE | W/O 1ST | S | .6 |

| RECNO | DATE | STUDY SITE | AM 1/ | PM 2/ | AVG 3/ | MAIN ST. | CROSS ST. | SIDE | RATIO AM/PM |
|---|---|---|---|---|---|---|---|---|---|
| 531 | 10/06/77 | 28 | 7.4 | 6.4 | 6.9 | UNION | E/O 5TH | N | 1.2 |
| 532 | 10/07/77 | 28 | 7.0 | 13.0 | 10.0 | UNION | E/O 5TH | N | .5 |
| 533 | 10/10/77 | 28 | 9.0 | 9.2 | 9.1 | UNION | E/O 5TH | N | 1.0 |
| 534 | 10/11/77 | 28 | 7.9 | 10.2 | 9.1 | UNION | E/O 5TH | N | .8 |
| 535 | 10/12/77 | 28 | 6.2 | 5.2 | 5.7 | UNION | E/O 5TH | N | 1.2 |
| 536 | 10/13/77 | 28 | 6.9 | 10.1 | 8.5 | UNION | E/O 5TH | N | .7 |
| 537 | 10/14/77 | 28 | 9.2 | 11.2 | 10.2 | UNION | E/O 5TH | N | .8 |
| 538 | 10/17/77 | 28 | 7.9 | 9.0 | 8.5 | UNION | E/O 5TH | N | .9 |
| 539 | 10/18/77 | 28 | 8.4 | 9.5 | 9.0 | UNION | E/O 5TH | N | .9 |
| 540 | 10/19/77 | 28 | .0 | 6.1 | .0 | UNION | E/O 5TH | N | .0 |
| 541 | 10/20/77 | 28 | 8.2 | 9.1 | 8.7 | UNION | E/O 5TH | N | .9 |
| 542 | 10/21/77 | 28 | 6.6 | 8.6 | 7.6 | UNION | E/O 5TH | N | .8 |
| 543 | 10/24/77 | 28 | 5.1 | 2.0 | 3.5 | UNION | E/O 5TH | N | 2.5 |
| 544 | 10/25/77 | 28 | 3.0 | 9.2 | 6.1 | UNION | E/O 5TH | N | .3 |
| 545 | 10/26/77 | 28 | 5.1 | .0 | .0 | UNION | E/O 5TH | N | .0 |
| 546 | 10/27/77 | 28 | .0 | .0 | .0 | UNION | E/O 5TH | N | .0 |
| 547 | 10/28/77 | 28 | 10.1 | .0 | .0 | UNION | E/O 5TH | N | .0 |
| 548 | 10/31/77 | 28 | 4.0 | 5.2 | 4.6 | UNION | E/O 5TH | N | .8 |
| 549 | 11/01/77 | 28 | 3.2 | 2.0 | 2.6 | UNION | E/O 5TH | N | 1.6 |
| 550 | 11/02/77 | 28 | .0 | 7.1 | .0 | UNION | E/O 5TH | N | .0 |
| 551 | 10/06/77 | 29 | 4.5 | 6.0 | 5.3 | UNIVERSITY | E/O 5TH | S | .8 |
| 552 | 10/07/77 | 29 | 4.8 | 6.1 | 5.5 | UNIVERSITY | E/O 5TH | S | .8 |
| 553 | 10/10/77 | 29 | 6.0 | 6.5 | 6.3 | UNIVERSITY | E/O 5TH | S | .9 |
| 554 | 10/11/77 | 29 | 5.7 | 6.1 | 5.9 | UNIVERSITY | E/O 5TH | S | .9 |
| 555 | 10/12/77 | 29 | 5.6 | 3.4 | 4.5 | UNIVERSITY | E/O 5TH | S | 1.6 |
| 556 | 10/13/77 | 29 | 5.0 | 4.9 | 5.0 | UNIVERSITY | E/O 5TH | S | 1.0 |
| 557 | 10/14/77 | 29 | 5.0 | 6.0 | 5.5 | UNIVERSITY | E/O 5TH | S | .8 |
| 558 | 10/17/77 | 29 | 4.2 | 8.5 | 6.4 | UNIVERSITY | E/O 5TH | S | .5 |
| 559 | 10/18/77 | 29 | 6.3 | 7.5 | 6.9 | UNIVERSITY | E/O 5TH | S | .8 |
| 560 | 10/19/77 | 29 | 4.2 | 7.1 | 5.7 | UNIVERSITY | E/O 5TH | S | .6 |
| 561 | 10/20/77 | 29 | 4.7 | 6.3 | 5.5 | UNIVERSITY | E/O 5TH | S | .7 |
| 562 | 10/21/77 | 29 | 5.6 | 6.2 | 5.9 | UNIVERSITY | E/O 5TH | S | .9 |
| 563 | 10/24/77 | 29 | 7.5 | 1.8 | 4.7 | UNIVERSITY | E/O 5TH | S | 4.2 |
| 564 | 10/25/77 | 29 | 2.2 | 3.7 | 3.0 | UNIVERSITY | E/O 5TH | S | .6 |
| 565 | 10/26/77 | 29 | 2.5 | 3.1 | 2.8 | UNIVERSITY | E/O 5TH | S | .8 |
| 566 | 10/27/77 | 29 | 8.8 | 5.3 | 7.1 | UNIVERSITY | E/O 5TH | S | 1.7 |
| 567 | 10/28/77 | 29 | 11.0 | 9.7 | 10.4 | UNIVERSITY | E/O 5TH | S | 1.1 |
| 568 | 10/31/77 | 29 | 2.9 | .0 | .0 | UNIVERSITY | E/O 5TH | S | .0 |
| 569 | 11/01/77 | 29 | 2.1 | 14.1 | 8.1 | UNIVERSITY | E/O 5TH | S | .1 |
| 570 | 11/02/77 | 29 | 3.3 | 4.2 | 3.7 | UNIVERSITY | E/O 5TH | S | .8 |
| 571 | 10/06/77 | 30 | .0 | 5.0 | .0 | COLUMBIA | E/O 1ST | N | .0 |
| 572 | 10/07/77 | 30 | 5.1 | .0 | .0 | COLUMBIA | E/O 1ST | N | .0 |
| 573 | 10/10/77 | 30 | 6.8 | 7.5 | 7.2 | COLUMBIA | E/O 1ST | N | .9 |
| 574 | 10/11/77 | 30 | 6.0 | 7.9 | 7.0 | COLUMBIA | E/O 1ST | N | .8 |
| 575 | 10/12/77 | 30 | 3.4 | 3.2 | 3.3 | COLUMBIA | E/O 1ST | N | 1.1 |
| 576 | 10/13/77 | 30 | 5.3 | 7.1 | 6.2 | COLUMBIA | E/O 1ST | N | .7 |
| 577 | 10/14/77 | 30 | 6.8 | 9.0 | 7.9 | COLUMBIA | E/O 1ST | N | .8 |
| 578 | 10/17/77 | 30 | 5.0 | 6.9 | 6.0 | COLUMBIA | E/O 1ST | N | .7 |
| 579 | 10/18/77 | 30 | 5.5 | 7.5 | 6.5 | COLUMBIA | E/O 1ST | N | .7 |
| 580 | 10/19/77 | 30 | 7.0 | 7.7 | 7.4 | COLUMBIA | E/O 1ST | N | .9 |
| 581 | 10/20/77 | 30 | 6.4 | 7.6 | 7.0 | COLUMBIA | E/O 1ST | N | .8 |
| 582 | 10/21/77 | 30 | 4.0 | 3.7 | 3.9 | COLUMBIA | E/O 1ST | N | 1.1 |
| 583 | 10/24/77 | 30 | 3.9 | 1.8 | 2.9 | COLUMBIA | E/O 1ST | N | 2.2 |
| 584 | 10/25/77 | 30 | 1.4 | 3.0 | 2.2 | COLUMBIA | E/O 1ST | N | .5 |
| 585 | 10/26/77 | 30 | 3.5 | 3.2 | 3.4 | COLUMBIA | E/O 1ST | N | 1.1 |
| 586 | 10/27/77 | 30 | 6.0 | 6.0 | 6.0 | COLUMBIA | E/O 1ST | N | 1.0 |
| 587 | 10/28/77 | 30 | 6.9 | 6.1 | 6.6 | COLUMBIA | E/O 1ST | N | 1.1 |
| 588 | 10/31/77 | 30 | 1.9 | 4.4 | 3.2 | COLUMBIA | E/O 1ST | N | .4 |
| 589 | 11/01/77 | 30 | 1.0 | 1.8 | 1.4 | COLUMBIA | E/O 1ST | N | .6 |
| 590 | 11/02/77 | 30 | 2.1 | 4.0 | 3.0 | COLUMBIA | E/O 1ST | N | .5 |

# APPENDIX C
11

| RECNO | DATE | STUDY SITE | AM1/ | PM2/ | AVC3/ | MAIN ST. | CROSS ST. | SIDE | RATIO AM/PM |
|---|---|---|---|---|---|---|---|---|---|
| 591 | 10/06/77 | 31 | 7.0 | 5.1 | 6.1 | JAMES | E/O 1ST | N | 1.4 |
| 592 | 10/07/77 | 31 | 3.9 | 6.1 | 5.0 | JAMES | E/O 1ST | N | .6 |
| 593 | 10/10/77 | 31 | 5.5 | .0 | .0 | JAMES | E/O 1ST | N | .0 |
| 594 | 10/11/77 | 31 | .0 | 6.9 | .0 | JAMES | E/O 1ST | N | .0 |
| 595 | 10/12/77 | 31 | 6.1 | 3.9 | 5.0 | JAMES | E/O 1ST | N | 1.6 |
| 596 | 10/13/77 | 31 | 5.0 | 7.7 | 6.4 | JAMES | E/O 1ST | N | .6 |
| 597 | 10/14/77 | 31 | 6.6 | 7.0 | 6.8 | JAMES | E/O 1ST | N | .9 |
| 598 | 10/17/77 | 31 | 5.9 | 4.0 | 5.0 | JAMES | E/O 1ST | N | 1.5 |
| 599 | 10/18/77 | 31 | 5.0 | 6.5 | 5.8 | JAMES | E/O 1ST | N | .8 |
| 600 | 10/19/77 | 31 | 7.0 | 6.3 | 6.7 | JAMES | E/O 1ST | N | 1.1 |
| 601 | 10/20/77 | 31 | 7.1 | 7.2 | 7.2 | JAMES | E/O 1ST | N | 1.0 |
| 602 | 10/21/77 | 31 | 4.2 | 3.9 | 4.1 | JAMES | E/O 1ST | N | 1.1 |
| 603 | 10/24/77 | 31 | 5.9 | 3.3 | 4.6 | JAMES | E/O 1ST | N | 1.8 |
| 604 | 10/25/77 | 31 | 3.0 | 3.9 | 3.5 | JAMES | E/O 1ST | N | .8 |
| 605 | 10/26/77 | 31 | 6.2 | 5.0 | 5.6 | JAMES | E/O 1ST | N | 1.2 |
| 606 | 10/27/77 | 31 | .0 | 5.2 | .0 | JAMES | E/O 1ST | N | .0 |
| 607 | 10/28/77 | 31 | 6.4 | 7.9 | 7.2 | JAMES | E/O 1ST | N | .8 |
| 608 | 10/31/77 | 31 | 2.0 | 3.2 | 2.6 | JAMES | E/O 1ST | N | .6 |
| 609 | 11/01/77 | 31 | 1.1 | 1.2 | 1.2 | JAMES | E/O 1ST | N | .9 |
| 610 | 11/02/77 | 31 | 2.0 | 1.6 | 1.8 | JAMES | E/O 1ST | N | 1.2 |
| 611 | 10/06/77 | 32 | 4.6 | 4.0 | 4.3 | ALASKAN WAY | S/O UNIVERSITY | W | 1.1 |
| 612 | 10/07/77 | 32 | 3.5 | 2.3 | 2.9 | ALASKAN WAY | S/O UNIVERSITY | W | 1.5 |
| 613 | 10/10/77 | 32 | 5.5 | 5.2 | 5.4 | ALASKAN WAY | S/O UNIVERSITY | W | 1.1 |
| 614 | 10/11/77 | 32 | 2.1 | 4.2 | 3.1 | ALASKAN WAY | S/O UNIVERSITY | W | .5 |
| 615 | 10/12/77 | 32 | 3.9 | 3.5 | 3.7 | ALASKAN WAY | S/O UNIVERSITY | W | 1.1 |
| 616 | 10/13/77 | 32 | 2.3 | 1.9 | 2.1 | ALASKAN WAY | S/O UNIVERSITY | W | 1.2 |
| 617 | 10/14/77 | 32 | 2.2 | 3.9 | 3.1 | ALASKAN WAY | S/O UNIVERSITY | W | .6 |
| 618 | 10/17/77 | 32 | 3.5 | 2.5 | 3.0 | ALASKAN WAY | S/O UNIVERSITY | W | 1.4 |
| 619 | 10/18/77 | 32 | 2.7 | 4.2 | 3.5 | ALASKAN WAY | S/O UNIVERSITY | W | .6 |
| 620 | 10/19/77 | 32 | 3.1 | 3.6 | 3.4 | ALASKAN WAY | S/O UNIVERSITY | W | .9 |
| 621 | 10/06/77 | 33 | 3.8 | .0 | .0 | ALASKAN WAY | S/O MADISON | W | .0 |
| 622 | 10/07/77 | 33 | 1.0 | 2.9 | 2.0 | ALASKAN WAY | S/O MADISON | W | .3 |
| 623 | 10/10/77 | 33 | 5.0 | 4.1 | 4.6 | ALASKAN WAY | S/O MADISON | W | 1.2 |
| 624 | 10/11/77 | 33 | 2.7 | 2.1 | 2.4 | ALASKAN WAY | S/O MADISON | W | 1.3 |
| 625 | 10/12/77 | 33 | .0 | 3.3 | .0 | ALASKAN WAY | S/O MADISON | W | .0 |
| 626 | 10/13/77 | 33 | 3.0 | 2.0 | 2.5 | ALASKAN WAY | S/O MADISON | W | 1.5 |
| 627 | 10/14/77 | 33 | 3.9 | 4.0 | 4.0 | ALASKAN WAY | S/O MADISON | W | 1.0 |
| 628 | 10/17/77 | 33 | 3.9 | 4.5 | 4.2 | ALASKAN WAY | S/O MADISON | W | .9 |
| 629 | 10/18/77 | 33 | 2.7 | 4.2 | 3.4 | ALASKAN WAY | S/O MADISON | W | .6 |
| 630 | 10/19/77 | 33 | 3.2 | 4.0 | 3.6 | ALASKAN WAY | S/O MADISON | W | .8 |
| 631 | 10/06/77 | 34 | 8.6 | 6.2 | 7.4 | JAMES | E/O 4TH | S | 1.4 |
| 632 | 10/07/77 | 34 | 5.9 | 5.9 | 5.9 | JAMES | E/O 4TH | S | 1.0 |
| 633 | 10/10/77 | 34 | 6.7 | 6.4 | 6.6 | JAMES | E/O 4TH | S | 1.0 |
| 634 | 10/11/77 | 34 | 5.1 | 7.0 | 6.1 | JAMES | E/O 4TH | S | .7 |
| 635 | 10/12/77 | 34 | 6.7 | 3.3 | 5.0 | JAMES | E/O 4TH | S | 2.0 |
| 636 | 10/13/77 | 34 | 3.6 | 3.9 | 3.8 | JAMES | E/O 4TH | S | .9 |
| 637 | 10/14/77 | 34 | 4.0 | 6.0 | 5.0 | JAMES | E/O 4TH | S | .7 |
| 638 | 10/17/77 | 34 | 4.9 | 8.2 | 6.6 | JAMES | E/O 4TH | S | .6 |
| 639 | 10/18/77 | 34 | 5.9 | 10.1 | 8.0 | JAMES | E/O 4TH | S | .6 |
| 640 | 10/19/77 | 34 | 4.2 | .0 | .0 | JAMES | E/O 4TH | S | .0 |
| 641 | 10/20/77 | 34 | 5.8 | 8.0 | 6.9 | JAMES | E/O 4TH | S | .7 |
| 642 | 10/21/77 | 34 | 8.3 | .0 | .0 | JAMES | E/O 4TH | S | .0 |
| 643 | 10/24/77 | 34 | 6.1 | 3.2 | 4.7 | JAMES | E/O 4TH | S | 1.9 |
| 644 | 10/25/77 | 34 | 3.4 | 5.9 | 4.7 | JAMES | E/O 4TH | S | .6 |
| 645 | 10/26/77 | 34 | 4.5 | 6.0 | 5.3 | JAMES | E/O 4TH | S | .8 |
| 646 | 10/27/77 | 34 | 9.3 | 8.1 | 8.7 | JAMES | E/O 4TH | S | 1.1 |
| 647 | 10/28/77 | 34 | 8.6 | 11.9 | 10.3 | JAMES | E/O 4TH | S | .7 |
| 648 | 10/31/77 | 34 | 4.9 | 7.6 | 6.3 | JAMES | E/O 4TH | S | .6 |
| 649 | 11/01/77 | 34 | 2.1 | 3.2 | 2.7 | JAMES | E/O 4TH | S | .7 |
| 650 | 11/02/77 | 34 | 4.0 | 5.9 | 5.0 | JAMES | E/O 4TH | S | .7 |

| RECNO | DATE | STUDY SITE | AM[1/] | PM[2/] | AVG[3/] | MAIN ST. | CROSS ST. | SIDE | RATIO AM/PM |
|---|---|---|---|---|---|---|---|---|---|
| 651 | 10/20/77 | 36 | 3.9 | 4.9 | 4.4 | SENECA | E/O 6TH | N | .8 |
| 652 | 10/21/77 | 35 | 4.5 | 5.5 | 5.0 | SENECA | E/O 6TH | N | .8 |
| 653 | 10/24/77 | 35 | 3.7 | 3.2 | 3.5 | SENECA | E/O 6TH | N | 1.2 |
| 654 | 10/25/77 | 35 | 2.0 | 2.8 | 2.4 | SENECA | E/O 6TH | N | .7 |
| 655 | 10/26/77 | 35 | 2.8 | 2.9 | 2.9 | SENECA | E/O 6TH | N | 1.0 |
| 656 | 10/27/77 | 35 | 7.8 | 3.5 | 5.7 | SENECA | E/O 6TH | N | 2.2 |
| 657 | 10/28/77 | 35 | 5.0 | 5.1 | 5.1 | SENECA | E/O 6TH | N | 1.0 |
| 658 | 10/31/77 | 35 | 2.1 | 3.8 | 3.0 | SENECA | E/O 6TH | N | .6 |
| 659 | 11/01/77 | 35 | 1.4 | 1.6 | 1.5 | SENECA | E/O 6TH | N | .9 |
| 660 | 11/02/77 | 35 | 1.5 | 3.3 | 2.4 | SENECA | E/O 6TH | N | .5 |
| 661 | 10/06/77 | 36 | 7.3 | .0 | .0 | PINE | E/O 5TH | N | .0 |
| 662 | 10/07/77 | 36 | 7.3 | 11.0 | 9.2 | PINE | E/O 5TH | N | .7 |
| 663 | 10/10/77 | 36 | 11.6 | 11.1 | 11.4 | PINE | E/O 5TH | N | 1.0 |
| 664 | 10/11/77 | 36 | .0 | 11.0 | .0 | PINE | E/O 5TH | N | .0 |
| 665 | 10/12/77 | 36 | 5.9 | 3.8 | 4.9 | PINE | E/O 5TH | N | 1.6 |
| 666 | 10/13/77 | 36 | 7.5 | 9.5 | 8.5 | PINE | E/O 5TH | N | .8 |
| 667 | 10/14/77 | 36 | 9.3 | 12.9 | 11.1 | PINE | E/O 5TH | N | .7 |
| 668 | 10/17/77 | 36 | 11.1 | 11.0 | 11.1 | PINE | E/O 5TH | N | 1.0 |
| 669 | 10/18/77 | 36 | 9.3 | 9.3 | 9.3 | PINE | E/O 5TH | N | 1.0 |
| 670 | 10/19/77 | 36 | 9.4 | 10.5 | 10.0 | PINE | E/O 5TH | N | .9 |
| 671 | 10/20/77 | 36 | 11.1 | 7.3 | 9.2 | PINE | E/O 5TH | N | 1.5 |
| 672 | 10/21/77 | 36 | 6.7 | 7.5 | 7.1 | PINE | E/O 5TH | N | .9 |
| 673 | 10/24/77 | 36 | 4.5 | 2.4 | 3.5 | PINE | E/O 5TH | N | 1.9 |
| 674 | 10/25/77 | 36 | 3.2 | 9.0 | 6.1 | PINE | E/O 5TH | N | .4 |
| 675 | 10/26/77 | 36 | 2.2 | 2.5 | 2.4 | PINE | E/O 5TH | N | .9 |
| 676 | 10/27/77 | 36 | 6.8 | 6.3 | 6.6 | PINE | E/O 5TH | N | 1.1 |
| 677 | 10/28/77 | 36 | 9.1 | .0 | .0 | PINE | E/O 5TH | N | .0 |
| 678 | 10/31/77 | 36 | 2.8 | 4.2 | 3.5 | PINE | E/O 5TH | N | .7 |
| 679 | 11/01/77 | 36 | 1.5 | 4.1 | 2.8 | PINE | E/O 5TH | N | .4 |
| 680 | 11/02/77 | 36 | 2.0 | 3.1 | 2.5 | PINE | E/O 5TH | N | .6 |

# TABLE C-2
# RATIOS OF AVERAGE CARBON MONOXIDE CONCENTRATIONS - EPA STUDY SITES
# COMPARED TO THE PERMANENT SITES
( SORTED BY SITE AND DATE )

| RECNO | DATE | SIT | AUC 1/ | AUSJ 2/ | R.C.J 3/ | AUSU 4/ | R.C.U 5/ | AUSS 6/ | R.C.S 7/ | AUSP 8/ | R.C.P 9/ | AUSF 10/ | R.C.F 11/ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 10/06/77 | 1 | 11.5 | 6.0 | 1.9 | 10.6 | 1.1 | 9.4 | 1.2 | 9.6 | 1.2 | 6.0 | 1.0 |
| 2 | 10/07/77 | 1 | 11.6 | 6.4 | 1.8 | 5.9 | 2.0 | 6.0 | 1.9 | 4.8 | 2.4 | 3.5 | 3.3 |
| 3 | 10/10/77 | 1 | 10.9 | 9.1 | 1.2 | 7.0 | 1.6 | 6.6 | 1.6 | .0 | .0 | 4.9 | 2.2 |
| 4 | 10/11/77 | 1 | 8.6 | 10.0 | .9 | 7.8 | 1.1 | 7.4 | 1.2 | 13.3 | .6 | 3.0 | 2.9 |
| 5 | 10/12/77 | 1 | .0 | 4.1 | .0 | .0 | .0 | .0 | .0 | 8.5 | .0 | .0 | .0 |
| 6 | 10/13/77 | 1 | 5.2 | 8.9 | .6 | 3.7 | 1.4 | 6.0 | .9 | 9.9 | .5 | .0 | .0 |
| 7 | 10/14/77 | 1 | 6.9 | 11.1 | .6 | 6.3 | 1.1 | 5.9 | 1.2 | 15.8 | .4 | .0 | .0 |
| 8 | 10/17/77 | 1 | 8.5 | .0 | .0 | 4.9 | 1.7 | .0 | .0 | .0 | .0 | .0 | .0 |
| 9 | 10/18/77 | 1 | 9.7 | 7.0 | 1.4 | 7.3 | 1.3 | 5.6 | 1.7 | 6.0 | 1.6 | .0 | .0 |
| 10 | 10/19/77 | 1 | 6.6 | 10.3 | .6 | 4.4 | 1.5 | 6.1 | 1.1 | 11.5 | .6 | .0 | .0 |
| 11 | 10/20/77 | 1 | .0 | 7.3 | .0 | 8.9 | .0 | .0 | .0 | 8.9 | .0 | 5.9 | .0 |
| 12 | 10/21/77 | 1 | 8.4 | 4.8 | 1.8 | 10.9 | .8 | 9.8 | .9 | 12.0 | .7 | .0 | .0 |
| 13 | 10/24/77 | 1 | 5.5 | 3.4 | 1.6 | 5.1 | 1.1 | 6.4 | .9 | 8.0 | .7 | 2.6 | 2.1 |
| 14 | 10/25/77 | 1 | 6.6 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | 2.6 | 2.5 |
| 15 | 10/26/77 | 1 | 5.8 | .0 | .0 | 7.9 | .7 | 7.0 | .8 | 9.4 | .6 | 3.6 | 1.6 |
| 16 | 10/27/77 | 1 | 11.7 | .0 | .0 | .0 | .0 | 8.6 | 1.4 | 7.6 | 1.5 | .0 | .0 |
| 17 | 10/28/77 | 1 | 16.1 | .0 | .0 | 12.8 | 1.3 | 12.3 | 1.3 | 13.6 | 1.2 | 6.5 | 2.5 |
| 18 | 10/31/77 | 1 | 7.3 | .0 | .0 | 6.1 | 1.2 | 6.9 | 1.1 | 8.3 | .9 | 2.7 | 2.7 |
| 19 | 11/01/77 | 1 | 2.9 | .0 | .0 | 3.5 | .8 | .0 | .0 | 4.6 | .6 | 1.7 | 1.7 |
| 20 | 11/02/77 | 1 | 6.3 | .0 | .0 | 4.9 | 1.3 | 5.9 | 1.1 | 7.3 | .9 | 2.2 | 2.8 |
| 21 | 10/06/77 | 2 | 4.5 | 6.0 | .8 | 10.6 | .4 | 9.4 | .5 | 9.6 | .5 | 6.0 | .8 |
| 22 | 10/07/77 | 2 | 2.9 | 6.4 | .5 | 5.9 | .5 | 6.0 | .5 | 4.8 | .6 | 3.5 | .8 |
| 23 | 10/10/77 | 2 | 4.6 | 9.1 | .5 | 7.0 | .7 | 6.6 | .7 | .0 | .0 | 4.9 | .9 |
| 24 | 10/11/77 | 2 | 3.4 | 10.0 | .3 | 7.8 | .4 | 7.4 | .5 | 13.3 | .3 | 3.0 | 1.1 |
| 25 | 10/12/77 | 2 | 3.9 | 4.1 | .9 | .0 | .0 | .0 | .0 | 8.5 | .5 | .0 | .0 |
| 26 | 10/13/77 | 2 | 3.4 | 8.9 | .4 | 3.7 | .9 | 6.0 | .6 | 9.9 | .3 | .0 | .0 |
| 27 | 10/14/77 | 2 | 4.1 | 11.1 | .4 | 6.3 | .7 | 5.9 | .7 | 15.8 | .3 | .0 | .0 |
| 28 | 10/17/77 | 2 | 4.0 | .0 | .0 | 4.9 | .8 | .0 | .0 | .0 | .0 | .0 | .0 |
| 29 | 10/18/77 | 2 | 4.7 | 7.0 | .7 | 7.3 | .6 | 5.6 | .8 | 6.0 | .8 | .0 | .0 |
| 30 | 10/19/77 | 2 | 3.6 | 10.3 | .4 | 4.4 | .8 | 6.1 | .6 | 11.5 | .3 | .0 | .0 |
| 31 | 10/20/77 | 2 | 3.9 | 7.3 | .5 | 8.9 | .4 | .0 | .0 | 8.9 | .4 | 5.9 | .7 |
| 32 | 10/21/77 | 2 | 4.6 | 4.8 | 1.0 | 10.9 | .4 | 9.8 | .5 | 12.0 | .4 | .0 | .0 |
| 33 | 10/24/77 | 2 | 2.6 | 3.4 | .8 | 5.1 | .5 | 6.4 | .4 | 8.0 | .3 | 2.6 | 1.0 |
| 34 | 10/25/77 | 2 | 2.7 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | 2.6 | 1.0 |
| 35 | 10/26/77 | 2 | .0 | .0 | .0 | 7.9 | .0 | 7.0 | .0 | 9.4 | .0 | 3.6 | .0 |
| 36 | 10/27/77 | 2 | 7.4 | .0 | .0 | .0 | .0 | 8.6 | .9 | 7.6 | 1.0 | .0 | .0 |
| 37 | 10/28/77 | 2 | 7.0 | .0 | .0 | 12.8 | .5 | 12.3 | .6 | 13.6 | .5 | 6.5 | 1.1 |
| 38 | 10/31/77 | 2 | 1.4 | .0 | .0 | 6.1 | .2 | 6.9 | .2 | 8.3 | .2 | 2.7 | .5 |
| 39 | 11/01/77 | 2 | 1.2 | .0 | .0 | 3.5 | .3 | .0 | .0 | 4.6 | .3 | 1.7 | .7 |
| 40 | 11/02/77 | 2 | 1.8 | .0 | .0 | 4.9 | .4 | 5.9 | .3 | 7.3 | .3 | 2.2 | .8 |
| 41 | 10/06/77 | 3 | 10.2 | 6.0 | 1.7 | 10.6 | 1.0 | 9.4 | 1.1 | 9.6 | 1.1 | 6.0 | 1.7 |
| 42 | 10/07/77 | 3 | 3.0 | 6.4 | .5 | 5.9 | .5 | 6.0 | .5 | 4.8 | .6 | 3.5 | .9 |
| 43 | 10/10/77 | 3 | 4.2 | 9.1 | .5 | 7.0 | .6 | 6.6 | .6 | .0 | .0 | 4.9 | .9 |
| 44 | 10/11/77 | 3 | 3.7 | 10.0 | .4 | 7.8 | .5 | 7.4 | .5 | 13.3 | .3 | 3.0 | 1.2 |
| 45 | 10/12/77 | 3 | 6.3 | 4.1 | 1.5 | .0 | .0 | .0 | .0 | 8.5 | .7 | .0 | .0 |
| 46 | 10/13/77 | 3 | 4.0 | 8.9 | .5 | 3.7 | 1.1 | 6.0 | .7 | 9.9 | .4 | .0 | .0 |
| 47 | 10/14/77 | 3 | 4.1 | 11.1 | .4 | 6.3 | .7 | 5.9 | .7 | 15.8 | .3 | .0 | .0 |
| 48 | 10/17/77 | 3 | 4.8 | .0 | .0 | 4.9 | 1.0 | .0 | .0 | .0 | .0 | .0 | .0 |
| 49 | 10/18/77 | 3 | 4.3 | 7.0 | .6 | 7.3 | .6 | 5.6 | .8 | 6.0 | .7 | .0 | .0 |
| 50 | 10/19/77 | 3 | .0 | 10.3 | .0 | 4.4 | .0 | 6.1 | .0 | 11.5 | .0 | .0 | .0 |
| 51 | 10/20/77 | 3 | 6.4 | 7.3 | .9 | 8.9 | .7 | .0 | .0 | 8.9 | .7 | 5.9 | 1.1 |
| 52 | 10/21/77 | 3 | 8.5 | 4.8 | 1.8 | 10.9 | .8 | 9.8 | .9 | 12.0 | .7 | .0 | .0 |
| 53 | 10/24/77 | 3 | 4.1 | 3.4 | 1.2 | 5.1 | .8 | 6.4 | .6 | 8.0 | .5 | 2.6 | 1.5 |
| 54 | 10/25/77 | 3 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | 2.6 | .0 |
| 55 | 10/26/77 | 3 | 6.0 | .0 | .0 | 7.9 | .8 | 7.0 | .9 | 9.4 | .6 | 3.6 | 1.7 |
| 56 | 10/27/77 | 3 | 7.2 | .0 | .0 | .0 | .0 | 8.6 | .8 | 7.6 | .9 | .0 | .0 |
| 57 | 10/28/77 | 3 | 11.0 | .0 | .0 | 12.8 | .9 | 12.3 | .9 | 13.6 | .8 | 6.5 | 1.7 |
| 58 | 10/31/77 | 3 | 4.1 | .0 | .0 | 6.1 | .7 | 6.9 | .6 | 8.3 | .5 | 2.7 | 1.5 |
| 59 | 11/01/77 | 3 | 2.7 | .0 | .0 | 3.5 | .8 | .0 | .0 | 4.6 | .6 | 1.7 | 1.5 |
| 60 | 11/02/77 | 3 | 6.9 | .0 | .0 | 4.9 | 1.4 | 5.9 | 1.2 | 7.3 | 1.0 | 2.2 | 3.1 |

1-11 SEE FOOTNOTE PAGE

| 61-120 RECNO | LIST DATE | SIT | AVC | AVSJ | R.C.J | AVSU | R.C.U | AVSS | R.C.S | AVSP | R.C.P | AVSF | R.C.F |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 61 | 10/06/77 | 4 | 10.0 | 6.0 | 1.7 | 10.6 | .8 | 9.4 | 1.1 | 9.6 | 1.0 | 6.0 | 1.7 |
| 62 | 10/07/77 | 4 | 9.0 | 6.4 | 1.4 | 5.9 | 1.5 | 6.0 | 1.5 | 4.8 | 1.9 | 3.5 | 2.6 |
| 63 | 10/10/77 | 4 | 6.8 | 9.1 | .7 | 7.0 | 1.0 | 6.6 | 1.0 | .0 | .0 | 4.9 | 1.4 |
| 64 | 10/11/77 | 4 | 6.9 | 10.0 | .7 | 7.8 | .9 | 7.4 | .9 | 13.3 | .5 | 3.0 | 2.3 |
| 65 | 10/12/77 | 4 | 7.5 | 4.1 | 1.0 | .0 | .0 | .0 | .0 | 8.5 | .0 | .0 | .0 |
| 66 | 10/13/77 | 4 | 4.6 | 8.9 | .6 | 3.7 | 1.2 | 6.0 | .8 | 9.9 | .6 | .0 | .0 |
| 67 | 10/14/77 | 4 | 7.1 | 11.1 | .6 | 6.3 | 1.1 | 5.9 | 1.2 | 15.8 | .4 | .0 | .0 |
| 68 | 10/17/77 | 4 | .0 | .0 | .0 | 4.9 | .0 | .0 | .0 | .0 | .0 | .0 | .0 |
| 69 | 10/18/77 | 4 | 8.6 | 7.0 | 1.2 | 7.3 | 1.2 | 5.6 | 1.5 | 6.0 | 1.4 | .0 | .0 |
| 70 | 10/19/77 | 4 | 8.1 | 10.3 | .6 | 4.4 | 1.4 | 6.1 | 1.0 | 11.5 | .6 | .0 | .0 |
| 71 | 10/20/77 | 4 | 7.7 | 7.3 | 1.1 | 8.9 | .9 | .0 | .0 | 8.9 | .9 | 5.9 | 1.3 |
| 72 | 10/21/77 | 4 | 10.5 | 4.8 | 2.2 | 10.9 | 1.0 | 9.8 | 1.1 | 12.0 | .9 | .0 | .0 |
| 73 | 10/24/77 | 4 | 5.1 | 3.4 | 1.5 | 5.1 | 1.0 | 6.4 | .8 | 8.0 | .6 | 2.6 | 1.9 |
| 74 | 10/25/77 | 4 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | 2.6 | .0 |
| 75 | 10/26/77 | 4 | 6.0 | .0 | .0 | 7.9 | .8 | 7.0 | .9 | 9.4 | .6 | 3.6 | 1.6 |
| 76 | 10/27/77 | 4 | 9.3 | .0 | .0 | .0 | .0 | 8.6 | 1.1 | 7.6 | 1.2 | .0 | .0 |
| 77 | 10/28/77 | 4 | 11.8 | .0 | .0 | 12.8 | .9 | 12.3 | 1.0 | 13.6 | .9 | 6.5 | 1.8 |
| 78 | 10/31/77 | 4 | 6.9 | .0 | .0 | 6.1 | 1.1 | 6.9 | 1.0 | 8.3 | .8 | 2.7 | 2.5 |
| 79 | 11/01/77 | 4 | 3.0 | .0 | .0 | 3.5 | .8 | .0 | .0 | 4.6 | .6 | 1.7 | 1.7 |
| 80 | 11/02/77 | 4 | 5.0 | .0 | .0 | 4.9 | 1.2 | 5.9 | 1.0 | 7.3 | .8 | 2.2 | 2.6 |
| 81 | 10/06/77 | 5 | .0 | 6.0 | .0 | 10.6 | .0 | 9.4 | .0 | 9.6 | .0 | 6.0 | .0 |
| 82 | 10/07/77 | 5 | 7.3 | 6.4 | 1.1 | 5.9 | 1.2 | 6.0 | 1.2 | 4.8 | 1.5 | 3.5 | 2.1 |
| 83 | 10/10/77 | 5 | 10.8 | 9.1 | 1.2 | 7.0 | 1.5 | 6.6 | 1.6 | .0 | .0 | 4.9 | 2.2 |
| 84 | 10/11/77 | 5 | 7.3 | 10.0 | .7 | 7.8 | .9 | 7.4 | 1.0 | 13.3 | .5 | 3.0 | 2.4 |
| 85 | 10/12/77 | 5 | .0 | 4.1 | .0 | .0 | .0 | .0 | .0 | 8.5 | .0 | .0 | .0 |
| 86 | 10/13/77 | 5 | 4.2 | 8.9 | .5 | 3.7 | 1.1 | 6.0 | .7 | 9.9 | .4 | .0 | .0 |
| 87 | 10/14/77 | 5 | 9.2 | 11.1 | .8 | 6.3 | 1.6 | 5.9 | 1.6 | 15.8 | .6 | .0 | .0 |
| 88 | 10/17/77 | 5 | 5.7 | .0 | .0 | 4.9 | 1.2 | .0 | .0 | .0 | .0 | .0 | .0 |
| 89 | 10/18/77 | 5 | 8.5 | 7.0 | 1.2 | 7.3 | 1.2 | 5.6 | 1.5 | 6.0 | 1.4 | .0 | .0 |
| 90 | 10/19/77 | 5 | 5.6 | 10.3 | .5 | 4.4 | 1.3 | 6.1 | .9 | 11.5 | .5 | .0 | .0 |
| 91 | 10/20/77 | 5 | 9.2 | 7.3 | 1.3 | 8.9 | 1.0 | .0 | .0 | 8.9 | 1.0 | 5.9 | 1.6 |
| 92 | 10/21/77 | 5 | 11.5 | 4.8 | 2.4 | 10.9 | 1.1 | 9.8 | 1.2 | 12.0 | 1.0 | .0 | .0 |
| 93 | 10/24/77 | 5 | 6.7 | 3.4 | 2.0 | 5.1 | 1.3 | 6.4 | 1.0 | 8.0 | .0 | 2.6 | 2.5 |
| 94 | 10/25/77 | 5 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | 2.6 | .0 |
| 95 | 10/26/77 | 5 | 5.7 | .0 | .0 | 7.9 | .7 | 7.0 | .8 | 9.4 | .6 | 3.6 | 1.6 |
| 96 | 10/27/77 | 5 | 13.7 | .0 | .0 | .0 | .0 | 8.6 | 1.6 | 7.6 | 1.8 | .0 | .0 |
| 97 | 10/28/77 | 5 | 11.9 | .0 | .0 | 12.8 | .9 | 12.3 | 1.0 | 13.6 | .9 | 6.5 | 1.8 |
| 98 | 10/31/77 | 5 | 5.1 | .0 | .0 | 6.1 | .8 | 6.9 | .7 | 8.3 | .6 | 2.7 | 1.8 |
| 99 | 11/01/77 | 5 | 2.2 | .0 | .0 | 3.5 | .6 | .0 | .0 | 4.6 | .5 | 1.7 | 1.3 |
| 100 | 11/02/77 | 5 | 4.2 | .0 | .0 | 4.9 | .9 | 5.9 | .7 | 7.3 | .6 | 2.2 | 1.9 |
| 101 | 10/06/77 | 6 | 4.0 | 6.0 | .8 | 10.6 | .5 | 9.4 | .6 | 9.6 | .5 | 6.0 | .0 |
| 102 | 10/07/77 | 6 | 2.6 | 6.4 | .4 | 5.9 | .4 | 6.0 | .4 | 4.8 | .5 | 3.5 | .7 |
| 103 | 10/10/77 | 6 | 7.4 | 9.1 | .8 | 7.0 | 1.1 | 6.6 | 1.1 | .0 | .0 | 4.9 | 1.6 |
| 104 | 10/11/77 | 6 | 4.5 | 10.0 | .5 | 7.8 | .6 | 7.4 | .6 | 13.3 | .3 | 3.0 | 1.5 |
| 105 | 10/12/77 | 6 | 3.9 | 4.1 | .0 | .0 | .0 | .0 | .0 | 8.5 | .5 | .0 | .0 |
| 106 | 10/13/77 | 6 | 7.4 | 8.9 | .8 | 3.7 | 2.0 | 6.0 | 1.2 | 9.9 | .7 | .0 | .0 |
| 107 | 10/14/77 | 6 | 5.8 | 11.1 | .5 | 6.3 | .9 | 5.9 | 1.0 | 15.8 | .4 | .0 | .0 |
| 108 | 10/17/77 | 6 | 4.6 | .0 | .0 | 4.9 | .9 | .0 | .0 | .0 | .0 | .0 | .0 |
| 109 | 10/18/77 | 6 | 4.0 | 7.0 | .0 | 7.3 | .6 | 5.6 | .7 | 6.0 | .7 | .0 | .0 |
| 110 | 10/19/77 | 6 | 7.5 | 10.3 | .0 | 4.4 | 1.0 | 6.1 | 1.3 | 11.5 | .7 | .0 | .0 |
| 111 | 10/20/77 | 6 | 5.6 | 7.3 | .0 | 8.9 | .6 | .0 | .0 | 8.9 | .6 | 5.9 | .9 |
| 112 | 10/21/77 | 6 | 5.3 | 4.8 | 1.1 | 10.9 | .5 | 9.8 | .6 | 12.0 | .4 | .0 | .0 |
| 113 | 10/24/77 | 6 | 3.0 | 3.4 | .0 | 5.1 | .6 | 6.4 | .5 | 8.0 | .4 | 2.6 | 1.1 |
| 114 | 10/25/77 | 6 | 2.7 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | 2.6 | 1.0 |
| 115 | 10/26/77 | 6 | 2.5 | .0 | .0 | 7.9 | .3 | 7.0 | .4 | 9.4 | .3 | 3.6 | .7 |
| 116 | 10/27/77 | 6 | 5.1 | .0 | .0 | .0 | .0 | 8.6 | .6 | 7.6 | .7 | .0 | .0 |
| 117 | 10/28/77 | 6 | 6.6 | .0 | .0 | 12.8 | .5 | 12.3 | .5 | 13.6 | .6 | 6.5 | 1.0 |
| 118 | 10/31/77 | 6 | 2.4 | .0 | .0 | 6.1 | .4 | 6.9 | .3 | 8.3 | .3 | 2.7 | .9 |
| 119 | 11/01/77 | 6 | .0 | .0 | .0 | 3.5 | .0 | .0 | .0 | 4.6 | .0 | 1.7 | .0 |
| 120 | 11/02/77 | 6 | 2.0 | .0 | .0 | 4.9 | .4 | 5.9 | .3 | 7.3 | .3 | 2.2 | .9 |

121-180 LIST

| RECNO | DATE | SIT | AVC | AVSJ | R.C.J | AVSU | R.C.U | AVSS | R.C.S | AVSP | R.C.P | AVSF | R.C.F |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 121 | 10/06/77 | 7 | 11.3 | 6.0 | 1.0 | 10.6 | 1.1 | 9.4 | 1.8 | 9.6 | 1.2 | 6.0 | 1.0 |
| 122 | 10/07/77 | 7 | 11.3 | 6.4 | 1.6 | 5.9 | 1.9 | 6.0 | 1.9 | 4.8 | 2.4 | 3.5 | 3.2 |
| 123 | 10/10/77 | 7 | 12.9 | 9.1 | 1.4 | 7.0 | 1.8 | 6.6 | 1.9 | .0 | .0 | 4.9 | 2.6 |
| 124 | 10/11/77 | 7 | 10.2 | 10.0 | 1.0 | 7.8 | 1.3 | 7.4 | 1.4 | 13.3 | .8 | 3.0 | 3.4 |
| 125 | 10/12/77 | 7 | .0 | 4.1 | .0 | .0 | .0 | .0 | .0 | 8.5 | .0 | .0 | .0 |
| 126 | 10/13/77 | 7 | 5.8 | 8.9 | .7 | 3.7 | 1.5 | 6.0 | 1.0 | 9.9 | .6 | .0 | .0 |
| 127 | 10/14/77 | 7 | 7.1 | 11.1 | .6 | 6.3 | 1.1 | 5.9 | 1.2 | 15.8 | .5 | .0 | .0 |
| 128 | 10/17/77 | 7 | 9.0 | .0 | .0 | 4.9 | 1.8 | .0 | .0 | .0 | .0 | .0 | .0 |
| 129 | 10/18/77 | 7 | 10.2 | 7.0 | 1.5 | 7.3 | 1.4 | 5.6 | 1.8 | 6.0 | 1.7 | .0 | .0 |
| 130 | 10/19/77 | 7 | 6.4 | 10.3 | .6 | 4.4 | 1.6 | 6.1 | 1.0 | 11.5 | .6 | .0 | .0 |
| 131 | 10/20/77 | 7 | 7.1 | 7.3 | 1.0 | 8.9 | .0 | .0 | .0 | 8.9 | .8 | 5.9 | 1.2 |
| 132 | 10/21/77 | 7 | 11.0 | 4.8 | 2.3 | 10.9 | 1.0 | 9.8 | 1.1 | 12.0 | .0 | .0 | .0 |
| 133 | 10/24/77 | 7 | 4.6 | 3.4 | 1.3 | 5.1 | .9 | 6.4 | .7 | 8.0 | .6 | 2.6 | 1.7 |
| 134 | 10/25/77 | 7 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | 2.6 | .0 |
| 135 | 10/26/77 | 7 | .0 | .0 | .0 | 7.9 | .0 | 7.0 | .0 | 9.4 | .0 | 3.6 | .0 |
| 136 | 10/27/77 | 7 | 10.6 | .0 | .0 | .0 | .0 | 8.6 | 1.2 | 7.6 | 1.4 | .0 | .0 |
| 137 | 10/28/77 | 7 | 14.5 | .0 | .0 | 12.8 | 1.1 | 12.3 | 1.2 | 13.6 | 1.1 | 6.5 | 2.2 |
| 138 | 10/31/77 | 7 | .0 | .0 | .0 | 6.1 | .0 | 6.9 | .0 | 8.3 | .0 | 2.7 | .0 |
| 139 | 11/01/77 | 7 | .0 | .0 | .0 | 3.5 | .0 | .0 | .0 | 4.6 | .0 | 1.7 | .0 |
| 140 | 11/02/77 | 7 | .0 | .0 | .0 | 4.9 | .0 | 5.9 | .0 | 7.3 | .0 | 2.2 | .0 |
| 141 | 10/06/77 | 8 | .0 | 6.0 | .0 | 10.6 | .0 | 9.4 | .0 | 9.6 | .0 | 6.0 | .0 |
| 142 | 10/07/77 | 8 | 9.6 | 6.4 | 1.5 | 5.9 | 1.6 | 6.0 | 1.6 | 4.8 | 2.0 | 3.5 | 2.7 |
| 143 | 10/10/77 | 8 | 8.2 | 9.1 | .9 | 7.0 | 1.2 | 6.6 | 1.2 | .0 | .0 | 4.9 | 1.7 |
| 144 | 10/11/77 | 8 | 6.8 | 10.0 | .7 | 7.8 | .9 | 7.4 | .9 | 13.3 | .5 | 3.0 | 2.3 |
| 145 | 10/12/77 | 8 | .0 | 4.1 | .0 | .0 | .0 | .0 | .0 | 8.5 | .0 | .0 | .0 |
| 146 | 10/13/77 | 8 | 4.3 | 8.9 | .5 | 3.7 | 1.1 | 6.0 | .7 | 9.9 | .4 | .0 | .0 |
| 147 | 10/14/77 | 8 | .0 | 11.1 | .0 | 6.3 | .0 | 5.9 | .0 | 15.8 | .0 | .0 | .0 |
| 148 | 10/17/77 | 8 | 8.1 | .0 | .0 | 4.9 | 1.7 | .0 | .0 | .0 | .0 | .0 | .0 |
| 149 | 10/18/77 | 8 | 8.2 | 7.0 | 1.2 | 7.3 | 1.1 | 5.6 | 1.5 | 6.0 | 1.4 | .0 | .0 |
| 150 | 10/19/77 | 8 | 4.3 | 10.3 | .4 | 4.4 | 1.0 | 6.1 | .7 | 11.5 | .4 | .0 | .0 |
| 151 | 10/20/77 | 8 | 8.4 | 7.3 | 1.2 | 8.9 | .9 | .0 | .0 | 8.9 | .9 | 5.9 | 1.4 |
| 152 | 10/21/77 | 8 | 10.4 | 4.8 | 2.2 | 10.9 | 1.0 | 9.8 | 1.1 | 12.0 | .9 | .0 | .0 |
| 153 | 10/24/77 | 8 | 5.6 | 3.4 | 1.6 | 5.1 | 1.1 | 6.4 | .9 | 8.0 | .7 | 2.6 | 2.1 |
| 154 | 10/25/77 | 8 | 5.8 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | 2.6 | 2.2 |
| 155 | 10/26/77 | 8 | 6.3 | .0 | .0 | 7.9 | .8 | 7.0 | .9 | 9.4 | .7 | 3.6 | 1.7 |
| 156 | 10/27/77 | 8 | 10.0 | .0 | .0 | .0 | .0 | 8.6 | 1.2 | 7.6 | 1.3 | .0 | .0 |
| 157 | 10/28/77 | 8 | .0 | .0 | .0 | 12.8 | .0 | 12.3 | .0 | 13.6 | .0 | 6.5 | .0 |
| 158 | 10/31/77 | 8 | 4.7 | .0 | .0 | 6.1 | .8 | 6.9 | .7 | 8.3 | .6 | 2.7 | 1.7 |
| 159 | 11/01/77 | 8 | 3.9 | .0 | .0 | 3.5 | 1.1 | .0 | .0 | 4.6 | .8 | 1.7 | 2.2 |
| 160 | 11/02/77 | 8 | 5.9 | .0 | .0 | 4.9 | 1.2 | 5.9 | 1.0 | 7.3 | .8 | 2.2 | 2.6 |
| 161 | 10/06/77 | 9 | 9.2 | 6.0 | 1.5 | 10.6 | .9 | 9.4 | 1.0 | 9.6 | 1.0 | 6.0 | 1.6 |
| 162 | 10/07/77 | 9 | 4.6 | 6.4 | .7 | 5.9 | .8 | 6.0 | .8 | 4.8 | .9 | 3.5 | 1.3 |
| 163 | 10/10/77 | 9 | .0 | 9.1 | .0 | 7.0 | .0 | 6.6 | .0 | .0 | .0 | 4.9 | .0 |
| 164 | 10/11/77 | 9 | 11.2 | 10.0 | 1.1 | 7.8 | 1.4 | 7.4 | 1.5 | 13.3 | .8 | 3.0 | 3.7 |
| 165 | 10/12/77 | 9 | 8.4 | 4.1 | 2.0 | .0 | .0 | .0 | .0 | 8.5 | 1.0 | .0 | .0 |
| 166 | 10/13/77 | 9 | 8.6 | 8.9 | 1.0 | 3.7 | 2.3 | 6.0 | 1.4 | 9.9 | .9 | .0 | .0 |
| 167 | 10/14/77 | 9 | 12.4 | 11.1 | 1.1 | 6.3 | 2.0 | 5.9 | 2.1 | 15.8 | .8 | .0 | .0 |
| 168 | 10/17/77 | 9 | 7.4 | .0 | .0 | 4.9 | 1.6 | .0 | .0 | .0 | .0 | .0 | .0 |
| 169 | 10/18/77 | 9 | 6.6 | 7.0 | .8 | 7.3 | .8 | 5.6 | 1.0 | 6.0 | .9 | .0 | .0 |
| 170 | 10/19/77 | 9 | 11.1 | 10.3 | 1.1 | 4.4 | 8.5 | 6.1 | 1.8 | 11.5 | 1.0 | .0 | .0 |
| 171 | 10/20/77 | 9 | 8.2 | 7.3 | 1.1 | 8.9 | .9 | .0 | .0 | 8.9 | .9 | 5.9 | 1.4 |
| 172 | 10/21/77 | 9 | 10.3 | 4.8 | 2.2 | 10.9 | .9 | 9.8 | 1.1 | 12.0 | .0 | .0 | .0 |
| 173 | 10/24/77 | 9 | 7.8 | 3.4 | 2.3 | 5.1 | 1.5 | 6.4 | 1.0 | 8.0 | 1.0 | 2.6 | 3.0 |
| 174 | 10/25/77 | 9 | 8.1 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | 2.6 | 3.1 |
| 175 | 10/26/77 | 9 | 8.0 | .0 | .0 | 7.9 | 1.1 | 7.0 | 1.2 | 9.4 | .0 | 3.6 | 2.4 |
| 176 | 10/27/77 | 9 | 8.2 | .0 | .0 | .0 | .0 | 8.6 | 1.0 | 7.6 | 1.1 | .0 | .0 |
| 177 | 10/28/77 | 9 | 14.0 | .0 | .0 | 12.8 | 1.1 | 12.3 | 1.1 | 13.6 | 1.0 | 6.5 | 2.1 |
| 178 | 10/31/77 | 9 | 8.8 | .0 | .0 | 6.1 | 1.4 | 6.9 | 1.3 | 8.3 | 1.1 | 2.7 | 3.2 |
| 179 | 11/01/77 | 9 | 4.9 | .0 | .0 | 3.5 | 1.4 | .0 | .0 | 4.6 | 1.0 | 1.7 | 2.8 |
| 180 | 11/02/77 | 9 | 7.5 | .0 | .0 | 4.9 | 1.6 | 5.9 | 1.3 | 7.3 | 1.0 | 2.0 | 3.3 |

181-240 LIST

| RECNO | DATE | SIT | AVG | AUSJ | R.C.J | AUSU | R.C.U | AUSS | R.C.S | AUSP | R.C.P | AUSF | R.C.F |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 181 | 10/06/77 | 10 | 11.4 | 6.0 | 1.9 | 10.6 | 1.1 | 9.4 | 1.8 | 9.6 | 1.8 | 6.0 | 1.9 |
| 182 | 10/07/77 | 10 | .0 | 6.4 | .0 | 5.9 | .0 | 6.0 | .0 | 4.8 | .0 | 3.6 | .0 |
| 183 | 10/10/77 | 10 | 8.7 | 9.1 | .9 | 7.0 | 1.2 | 6.6 | 1.3 | .0 | .0 | 4.0 | 1.8 |
| 184 | 10/11/77 | 10 | 8.3 | 10.0 | .6 | 7.8 | .8 | 7.4 | .9 | 13.3 | .5 | 3.0 | 2.1 |
| 185 | 10/12/77 | 10 | 12.4 | 4.1 | 3.0 | .0 | .0 | .0 | .0 | 8.5 | 1.5 | .0 | .0 |
| 186 | 10/13/77 | 10 | 4.5 | 8.9 | .5 | 3.7 | 1.2 | 6.0 | .8 | 9.9 | .5 | .0 | .0 |
| 187 | 10/14/77 | 10 | 6.3 | 11.1 | .5 | 6.3 | .0 | 5.9 | .9 | 15.8 | .3 | .0 | .0 |
| 188 | 10/17/77 | 10 | 5.6 | .0 | .0 | 4.0 | 1.1 | .0 | .0 | .0 | .0 | .0 | .0 |
| 189 | 10/18/77 | 10 | 9.4 | 7.0 | 1.3 | 7.3 | 1.3 | 5.6 | 1.7 | 6.0 | 1.6 | .0 | .0 |
| 190 | 10/19/77 | 10 | 5.6 | 10.3 | .5 | 4.4 | 1.3 | 6.1 | .9 | 11.5 | .5 | .0 | .0 |
| 191 | 10/20/77 | 10 | 8.7 | 7.3 | 1.8 | 8.0 | 1.0 | .0 | .0 | 8.9 | 1.0 | 6.9 | 1.6 |
| 192 | 10/21/77 | 10 | 15.0 | 4.8 | 3.1 | 10.9 | 1.4 | 9.8 | 1.5 | 12.0 | 1.2 | .0 | .0 |
| 193 | 10/24/77 | 10 | 7.0 | 3.4 | 2.3 | 5.1 | 1.5 | 6.4 | 1.2 | 8.0 | 1.0 | 2.6 | 3.0 |
| 194 | 10/25/77 | 10 | 4.3 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | 2.6 | 1.6 |
| 195 | 10/26/77 | 10 | 8.6 | .0 | .0 | 7.9 | 1.1 | 7.0 | 1.2 | 9.4 | .0 | 3.6 | 2.4 |
| 196 | 10/27/77 | 10 | 11.0 | .0 | .0 | .0 | .0 | 8.6 | 1.3 | 7.6 | 1.4 | .0 | .0 |
| 197 | 10/28/77 | 10 | 16.0 | .0 | .0 | 12.8 | 1.2 | 12.3 | 1.2 | 13.6 | 1.1 | 6.5 | 2.3 |
| 198 | 10/31/77 | 10 | .0 | .0 | .0 | 6.1 | .0 | 6.9 | .0 | 8.3 | .0 | 2.7 | .0 |
| 199 | 11/01/77 | 10 | 4.1 | .0 | .0 | 3.5 | 1.2 | .0 | .0 | 4.6 | .9 | 1.7 | 2.3 |
| 200 | 11/02/77 | 10 | 8.1 | .0 | .0 | 4.9 | 1.7 | 5.9 | 1.4 | 7.3 | 1.1 | 2.2 | 3.6 |
| 201 | 10/06/77 | 11 | 8.5 | 6.0 | 1.4 | 10.6 | .8 | 9.4 | .9 | 9.6 | .9 | 6.0 | 1.4 |
| 202 | 10/07/77 | 11 | .0 | 6.4 | .0 | 5.9 | .0 | 6.0 | .0 | 4.8 | .0 | 3.6 | .0 |
| 203 | 10/10/77 | 11 | 11.4 | 9.1 | 1.8 | 7.0 | 1.6 | 6.6 | 1.7 | .0 | .0 | 4.0 | 2.3 |
| 204 | 10/11/77 | 11 | 8.1 | 10.0 | .6 | 7.8 | .8 | 7.4 | .8 | 13.3 | .6 | 3.0 | 2.0 |
| 205 | 10/12/77 | 11 | 7.0 | 4.1 | 1.7 | .0 | .0 | .0 | .0 | 8.5 | .8 | .0 | .0 |
| 206 | 10/13/77 | 11 | 3.1 | 8.9 | .3 | 3.7 | .8 | 6.0 | .5 | 9.9 | .3 | .0 | .0 |
| 207 | 10/14/77 | 11 | 4.7 | 11.1 | .4 | 6.3 | .0 | 5.9 | .8 | 15.8 | .3 | .0 | .0 |
| 208 | 10/17/77 | 11 | 6.9 | .0 | .0 | 4.0 | 1.2 | .0 | .0 | .0 | .0 | .0 | .0 |
| 209 | 10/18/77 | 11 | 9.2 | 7.0 | 1.3 | 7.3 | 1.3 | 5.6 | 1.6 | 6.0 | 1.5 | .0 | .0 |
| 210 | 10/19/77 | 11 | 5.7 | 10.3 | .6 | 4.4 | 1.3 | 6.1 | .9 | 11.5 | .5 | .0 | .0 |
| 211 | 10/20/77 | 11 | 7.3 | 7.3 | 1.0 | 8.0 | .8 | .0 | .0 | 8.9 | .8 | 5.9 | 1.2 |
| 212 | 10/21/77 | 11 | 9.1 | 4.8 | 1.9 | 10.9 | .8 | 9.8 | .9 | 12.0 | .8 | .0 | .0 |
| 213 | 10/24/77 | 11 | 5.4 | 3.4 | 1.6 | 5.1 | 1.0 | 6.4 | .8 | 8.0 | .7 | 2.6 | 2.0 |
| 214 | 10/25/77 | 11 | 4.4 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | 2.6 | 1.7 |
| 215 | 10/26/77 | 11 | 8.3 | .0 | .0 | 7.9 | 1.1 | 7.0 | 1.2 | 9.4 | .9 | 3.6 | 2.3 |
| 216 | 10/27/77 | 11 | 9.1 | .0 | .0 | .0 | .0 | 8.6 | 1.1 | 7.6 | 1.2 | .0 | .0 |
| 217 | 10/28/77 | 11 | 10.8 | .0 | .0 | 12.8 | .8 | 12.3 | .9 | 13.6 | .8 | 6.5 | 1.7 |
| 218 | 10/31/77 | 11 | 6.7 | .0 | .0 | 6.1 | 1.1 | 6.9 | 1.0 | 8.3 | .8 | 2.7 | 2.4 |
| 219 | 11/01/77 | 11 | 3.0 | .0 | .0 | 3.5 | .9 | .0 | .0 | 4.6 | .6 | 1.7 | 1.7 |
| 220 | 11/02/77 | 11 | 4.5 | .0 | .0 | 4.9 | .9 | 5.9 | .8 | 7.3 | .6 | 2.2 | 2.0 |
| 221 | 10/06/77 | 12 | 7.0 | 6.0 | 1.2 | 10.6 | .7 | 9.4 | .7 | 9.6 | .7 | 6.0 | 1.2 |
| 222 | 10/07/77 | 12 | .0 | 6.4 | .0 | 5.9 | .0 | 6.0 | .0 | 4.8 | .0 | 3.5 | .0 |
| 223 | 10/10/77 | 12 | 5.2 | 9.1 | .6 | 7.0 | .7 | 6.6 | .8 | .0 | .0 | 4.9 | 1.1 |
| 224 | 10/11/77 | 12 | 4.6 | 10.0 | .5 | 7.8 | .6 | 7.4 | .6 | 13.3 | .3 | 3.0 | 1.5 |
| 225 | 10/12/77 | 12 | 5.1 | 4.1 | 1.8 | .0 | .0 | .0 | .0 | 8.5 | .6 | .0 | .0 |
| 226 | 10/13/77 | 12 | 4.0 | 8.9 | .4 | 3.7 | 1.1 | 6.0 | .7 | 9.9 | .4 | .0 | .0 |
| 227 | 10/14/77 | 12 | 3.7 | 11.1 | .3 | 6.3 | .6 | 5.9 | .6 | 15.8 | .8 | .0 | .0 |
| 228 | 10/17/77 | 12 | 6.6 | .0 | .0 | 4.0 | 1.3 | .0 | .0 | .0 | .0 | .0 | .0 |
| 229 | 10/18/77 | 12 | 6.1 | 7.0 | .0 | 7.3 | .8 | 5.6 | 1.1 | 6.0 | 1.0 | .0 | .0 |
| 230 | 10/19/77 | 12 | .0 | 10.3 | .0 | 4.4 | .0 | 6.1 | .0 | 11.5 | .0 | .0 | .0 |
| 231 | 10/20/77 | 12 | 6.8 | 7.3 | .0 | 8.0 | .0 | .0 | .0 | 8.9 | .8 | 6.9 | 1.2 |
| 232 | 10/21/77 | 12 | 6.0 | 4.8 | 1.3 | 10.9 | .6 | 9.8 | .6 | 12.0 | .5 | .0 | .0 |
| 233 | 10/24/77 | 12 | 4.9 | 3.4 | 1.6 | 5.1 | 1.0 | 6.4 | .8 | 8.0 | .6 | 8.6 | 1.0 |
| 234 | 10/25/77 | 12 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | 2.6 | .0 |
| 235 | 10/26/77 | 12 | 5.0 | .0 | .0 | 7.9 | .6 | 7.0 | .7 | 9.4 | .5 | 3.6 | 1.4 |
| 236 | 10/27/77 | 12 | .0 | .0 | .0 | .0 | .0 | 8.6 | .0 | 7.6 | .0 | .0 | .0 |
| 237 | 10/28/77 | 12 | 10.3 | .0 | .0 | 12.8 | .0 | 12.3 | .8 | 13.6 | .8 | 6.5 | 1.6 |
| 238 | 10/31/77 | 12 | .0 | .0 | .0 | 6.1 | .0 | 6.9 | .0 | 8.3 | .0 | 2.7 | .0 |
| 239 | 11/01/77 | 12 | 1.0 | .0 | .0 | 3.5 | .3 | .0 | .0 | 4.6 | .2 | 1.7 | .6 |
| 240 | 11/02/77 | 12 | 1.9 | .0 | .0 | 4.0 | .4 | 5.9 | .3 | 7.3 | .3 | 2.2 | .8 |

241-300 LIST

| RECNO | DATE | SIT | AUC | AUSJ | R.C.J | AUSU | R.C.U | AUSS | R.C.S | AUSP | R.C.P | AUSF | R.C.F |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 241 | 10/06/77 | 13 | .0 | 6.0 | .0 | 10.6 | .0 | 9.4 | .0 | 9.6 | .0 | 6.0 | .0 |
| 242 | 10/07/77 | 13 | .0 | 6.4 | .0 | 5.9 | .0 | 6.0 | .0 | 4.8 | .0 | 3.5 | .0 |
| 243 | 10/10/77 | 13 | .0 | 9.1 | .0 | 7.0 | .0 | 6.6 | .0 | .0 | .0 | 4.9 | .0 |
| 244 | 10/11/77 | 13 | .0 | 10.0 | .0 | 7.8 | .0 | 7.4 | .0 | 13.3 | .0 | 3.0 | .0 |
| 245 | 10/12/77 | 13 | 4.2 | 4.1 | 1.0 | .0 | .0 | .0 | .0 | 8.5 | .5 | .0 | .0 |
| 246 | 10/13/77 | 13 | .0 | 8.9 | .0 | 3.7 | .0 | 6.0 | .0 | 9.9 | .0 | .0 | .0 |
| 247 | 10/14/77 | 13 | 7.0 | 11.1 | .6 | 6.3 | 1.1 | 5.9 | 1.2 | 15.8 | .4 | .0 | .0 |
| 248 | 10/17/77 | 13 | 6.1 | .0 | .0 | 4.9 | 1.0 | .0 | .0 | .0 | .6 | .0 | .0 |
| 249 | 10/18/77 | 13 | 6.4 | 7.0 | .0 | 7.3 | .9 | 5.6 | 1.1 | 6.0 | 1.1 | .0 | .0 |
| 250 | 10/19/77 | 13 | 5.6 | 10.3 | .5 | 4.4 | 1.3 | 6.1 | .9 | 11.5 | .5 | .0 | .0 |
| 251 | 10/20/77 | 13 | 4.7 | 7.3 | .6 | 8.9 | .5 | .0 | .0 | 8.9 | .5 | 5.9 | .8 |
| 252 | 10/21/77 | 13 | 4.6 | 4.8 | .0 | 10.9 | .4 | 9.8 | .5 | 12.0 | .4 | .0 | .0 |
| 253 | 10/24/77 | 13 | 2.6 | 3.4 | .8 | 5.1 | .5 | 6.4 | .4 | 8.0 | .3 | 2.6 | 1.0 |
| 254 | 10/25/77 | 13 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | 2.6 | .0 |
| 255 | 10/26/77 | 13 | 2.5 | .0 | .0 | 7.9 | .3 | 7.0 | .4 | 9.4 | .3 | 3.6 | .7 |
| 256 | 10/27/77 | 13 | 5.1 | .0 | .0 | .0 | .0 | 8.6 | .6 | 7.6 | .7 | .0 | .0 |
| 257 | 10/28/77 | 13 | 6.2 | .0 | .0 | 12.8 | .5 | 12.3 | .5 | 13.6 | .6 | 6.5 | 1.0 |
| 258 | 10/31/77 | 13 | 2.2 | .0 | .0 | 6.1 | .4 | 6.9 | .3 | 8.3 | .3 | 2.7 | .8 |
| 259 | 11/01/77 | 13 | 1.0 | .0 | .0 | 3.5 | .3 | .0 | .0 | 4.6 | .2 | 1.7 | .5 |
| 260 | 11/02/77 | 13 | 1.9 | .0 | .0 | 4.9 | .4 | 5.9 | .3 | 7.3 | .3 | 2.2 | .8 |
| 261 | 10/06/77 | 14 | 4.5 | 6.0 | .8 | 10.6 | .4 | 9.4 | .5 | 9.6 | .5 | 6.0 | .8 |
| 262 | 10/07/77 | 14 | 4.5 | 6.4 | .7 | 5.9 | .8 | 6.0 | .8 | 4.8 | .0 | 3.5 | 1.3 |
| 263 | 10/10/77 | 14 | 4.8 | 9.1 | .5 | 7.0 | .6 | 6.6 | .7 | .0 | .0 | 4.9 | .9 |
| 264 | 10/11/77 | 14 | 5.2 | 10.0 | .5 | 7.8 | .7 | 7.4 | .7 | 13.3 | .4 | 3.0 | 1.7 |
| 265 | 10/12/77 | 14 | 4.5 | 4.1 | 1.1 | .0 | .0 | .0 | .0 | 8.5 | .5 | .0 | .0 |
| 266 | 10/13/77 | 14 | .0 | 8.9 | .0 | 3.7 | .0 | 6.0 | .0 | 9.9 | .0 | .0 | .0 |
| 267 | 10/14/77 | 14 | 6.7 | 11.1 | .5 | 6.3 | .9 | 5.9 | 1.0 | 15.8 | .4 | .0 | .0 |
| 268 | 10/17/77 | 14 | 3.6 | .0 | .0 | 4.9 | .7 | .0 | .0 | .0 | .0 | .0 | .0 |
| 269 | 10/18/77 | 14 | 3.8 | 7.0 | .8 | 7.3 | .5 | 5.6 | .7 | 6.0 | .6 | .0 | .0 |
| 270 | 10/19/77 | 14 | 3.6 | 10.3 | .3 | 4.4 | .8 | 6.1 | .6 | 11.5 | .3 | .0 | .0 |
| 271 | 10/20/77 | 14 | 4.4 | 7.3 | .6 | 8.9 | .5 | .0 | .0 | 8.9 | .5 | 5.9 | .7 |
| 272 | 10/21/77 | 14 | 4.7 | 4.8 | 1.0 | 10.9 | .4 | 9.8 | .5 | 12.0 | .4 | .0 | .0 |
| 273 | 10/24/77 | 14 | 3.2 | 3.4 | 1.0 | 5.1 | .6 | 6.4 | .5 | 8.0 | .4 | 2.6 | 1.2 |
| 274 | 10/25/77 | 14 | 2.7 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | 2.6 | 1.0 |
| 275 | 10/26/77 | 14 | 2.5 | .0 | .0 | 7.9 | .3 | 7.0 | .4 | 9.4 | .3 | 3.6 | .7 |
| 276 | 10/27/77 | 14 | 4.4 | .0 | .0 | .0 | .0 | 8.6 | .5 | 7.6 | .6 | .0 | .0 |
| 277 | 10/28/77 | 14 | 7.3 | .0 | .0 | 12.8 | .6 | 12.3 | .6 | 13.6 | .6 | 6.5 | 1.1 |
| 278 | 10/31/77 | 14 | 3.0 | .0 | .0 | 6.1 | .5 | 6.9 | .4 | 8.3 | .4 | 2.7 | 1.1 |
| 279 | 11/01/77 | 14 | 1.4 | .0 | .0 | 3.5 | .4 | .0 | .0 | 4.6 | .3 | 1.7 | .8 |
| 280 | 11/02/77 | 14 | 2.5 | .0 | .0 | 4.9 | .5 | 5.9 | .4 | 7.3 | .3 | 2.2 | 1.1 |
| 281 | 10/06/77 | 15 | 5.0 | 6.0 | .8 | 10.6 | .5 | 9.4 | .5 | 9.6 | .5 | 6.0 | .8 |
| 282 | 10/07/77 | 15 | 3.5 | 6.4 | .6 | 5.9 | .6 | 6.0 | .6 | 4.8 | .7 | 3.5 | 1.0 |
| 283 | 10/10/77 | 15 | 6.8 | 9.1 | .7 | 7.0 | 1.0 | 6.6 | 1.0 | .0 | .0 | 4.9 | 1.4 |
| 284 | 10/11/77 | 15 | 8.3 | 10.0 | .8 | 7.8 | 1.1 | 7.4 | 1.1 | 13.3 | .6 | 3.0 | 2.7 |
| 285 | 10/12/77 | 15 | 5.0 | 4.1 | 1.2 | .0 | .0 | .0 | .0 | 8.5 | .6 | .0 | .0 |
| 286 | 10/13/77 | 15 | 4.6 | 8.9 | .5 | 3.7 | 1.2 | 6.0 | .8 | 9.9 | .5 | .0 | .0 |
| 287 | 10/14/77 | 15 | 6.5 | 11.1 | .6 | 6.3 | 1.0 | 5.9 | 1.1 | 15.8 | .4 | .0 | .0 |
| 288 | 10/17/77 | 15 | 9.0 | .0 | .0 | 4.9 | 1.0 | .0 | .0 | .0 | .0 | .0 | .0 |
| 289 | 10/18/77 | 15 | 5.1 | 7.0 | .7 | 7.3 | .7 | 5.6 | .0 | 6.0 | .8 | .0 | .0 |
| 290 | 10/19/77 | 15 | 6.8 | 10.3 | .8 | 4.4 | 1.6 | 6.1 | 1.1 | 11.5 | .6 | .0 | .0 |
| 291 | 10/20/77 | 15 | .0 | 7.3 | .0 | 8.9 | .0 | .0 | .0 | 8.9 | .0 | 5.9 | .0 |
| 292 | 10/21/77 | 15 | 6.1 | 4.8 | 1.3 | 10.9 | .6 | 9.8 | .6 | 12.0 | .5 | .0 | .0 |
| 293 | 10/24/77 | 15 | 3.1 | 3.4 | .0 | 6.1 | .6 | 6.4 | .5 | 8.0 | .4 | 2.6 | 1.2 |
| 294 | 10/25/77 | 15 | 3.7 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | 2.6 | 1.4 |
| 295 | 10/26/77 | 15 | .0 | .0 | .0 | 7.9 | .0 | 7.0 | .0 | 9.4 | .0 | 3.6 | .0 |
| 296 | 10/27/77 | 15 | 7.6 | .0 | .0 | .0 | .0 | 8.6 | .9 | 7.6 | 1.0 | .0 | .0 |
| 297 | 10/28/77 | 15 | 10.3 | .0 | .0 | 12.8 | .8 | 12.3 | .8 | 13.6 | .8 | 6.5 | 1.6 |
| 298 | 10/31/77 | 15 | 3.2 | .0 | .0 | 6.1 | .5 | 6.9 | .5 | 8.3 | .4 | 2.7 | 1.2 |
| 299 | 11/01/77 | 15 | 1.4 | .0 | .0 | 3.6 | .4 | .0 | .0 | 4.6 | .3 | 1.7 | .8 |
| 300 | 11/02/77 | 15 | 8.0 | .0 | .0 | 4.9 | .6 | 5.9 | .5 | 7.3 | .4 | 2.2 | 1.3 |

301-360 LIST

| RECNO | DATE | SIT | AUC | AUSJ | R.C.J | AUSU | R.C.U | AUSS | R.C.S | AUSP | R.C.P | AUSF | R.C.F |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 301 | 10/06/77 | 16 | 10.0 | 6.0 | 1.7 | 10.6 | .9 | 9.4 | 1.1 | 9.6 | 1.0 | 6.0 | 1.7 |
| 302 | 10/07/77 | 16 | 9.8 | 6.4 | 1.4 | 5.9 | 1.5 | 6.0 | 1.5 | 4.8 | 1.0 | 3.5 | 2.6 |
| 303 | 10/10/77 | 16 | .0 | 9.1 | .0 | 7.0 | .0 | 6.6 | .0 | .0 | .0 | 4.9 | .0 |
| 304 | 10/11/77 | 16 | 8.0 | 10.0 | .8 | 7.8 | 1.0 | 7.4 | 1.1 | 13.3 | .6 | 3.0 | 2.7 |
| 305 | 10/12/77 | 16 | 7.1 | 4.1 | 1.7 | .0 | .0 | .0 | .0 | 8.5 | .8 | .0 | .0 |
| 306 | 10/13/77 | 16 | 4.8 | 8.9 | .5 | 3.7 | 1.1 | 6.0 | .7 | 9.9 | .4 | .0 | .0 |
| 307 | 10/14/77 | 16 | 6.5 | 11.1 | .6 | 6.3 | .9 | 5.9 | .9 | 15.8 | .3 | .0 | .0 |
| 308 | 10/17/77 | 16 | 6.9 | .0 | .0 | 4.9 | 1.4 | .0 | .0 | .0 | .0 | .0 | .0 |
| 309 | 10/18/77 | 16 | 9.7 | 7.0 | 1.4 | 7.3 | 1.3 | 5.6 | 1.7 | 6.0 | 1.6 | .0 | .0 |
| 310 | 10/19/77 | 16 | 6.0 | 10.3 | .6 | 4.4 | 1.4 | 6.1 | 1.0 | 11.5 | .5 | .0 | .0 |
| 311 | 10/20/77 | 16 | 8.6 | 7.3 | 1.2 | 8.9 | 1.0 | .0 | .0 | 8.9 | 1.0 | 5.9 | 1.5 |
| 312 | 10/21/77 | 16 | 8.6 | 4.8 | 1.8 | 10.9 | .8 | 9.8 | .9 | 12.0 | .7 | .0 | .0 |
| 313 | 10/24/77 | 16 | 5.3 | 3.4 | 1.6 | 6.1 | 1.0 | 6.4 | .8 | 8.0 | .7 | 2.6 | 2.0 |
| 314 | 10/25/77 | 16 | 6.0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | 2.6 | 2.3 |
| 315 | 10/26/77 | 16 | 5.9 | .0 | .0 | 7.9 | .7 | 7.0 | .8 | 9.4 | .6 | 3.6 | 1.6 |
| 316 | 10/27/77 | 16 | 9.1 | .0 | .0 | .0 | .0 | 8.6 | 1.1 | 7.6 | 1.2 | .0 | .0 |
| 317 | 10/28/77 | 16 | .0 | .0 | .0 | 12.8 | .0 | 12.3 | .0 | 13.6 | .0 | 6.5 | .0 |
| 318 | 10/31/77 | 16 | 5.2 | .0 | .0 | 6.1 | .8 | 6.9 | .7 | 8.3 | .6 | 2.7 | 1.0 |
| 319 | 11/01/77 | 16 | 2.0 | .0 | .0 | 3.5 | .6 | .0 | .0 | 4.6 | .4 | 1.7 | 1.2 |
| 320 | 11/02/77 | 16 | 5.1 | .0 | .0 | 4.9 | 1.0 | 5.9 | .9 | 7.3 | .7 | 2.2 | 2.3 |
| 321 | 10/06/77 | 17 | 8.2 | 6.0 | 1.4 | 10.6 | .8 | 9.4 | .9 | 9.6 | .8 | 6.0 | 1.4 |
| 322 | 10/07/77 | 17 | 7.9 | 6.4 | 1.2 | 5.9 | 1.3 | 6.0 | 1.3 | 4.8 | 1.7 | 3.5 | 2.3 |
| 323 | 10/10/77 | 17 | 9.3 | 9.1 | 1.0 | 7.0 | 1.3 | 6.6 | 1.4 | .0 | .0 | 4.9 | 1.9 |
| 324 | 10/11/77 | 17 | 9.6 | 10.0 | 1.0 | 7.8 | 1.2 | 7.4 | 1.3 | 13.3 | .7 | 3.0 | 3.2 |
| 325 | 10/12/77 | 17 | 8.7 | 4.1 | 2.1 | .0 | .0 | .0 | .0 | 8.5 | 1.0 | .0 | .0 |
| 326 | 10/13/77 | 17 | 7.7 | 8.9 | .9 | 3.7 | 2.1 | 6.0 | 1.3 | 9.9 | .8 | .0 | .0 |
| 327 | 10/14/77 | 17 | 10.5 | 11.1 | .9 | 6.3 | 1.7 | 5.9 | 1.8 | 15.8 | .7 | .0 | .0 |
| 328 | 10/17/77 | 17 | 5.3 | .0 | .0 | 4.9 | 1.1 | .0 | .0 | .0 | .0 | .0 | .0 |
| 329 | 10/18/77 | 17 | 9.2 | 7.0 | 1.3 | 7.3 | 1.3 | 5.6 | 1.6 | 6.0 | 1.5 | .0 | .0 |
| 330 | 10/19/77 | 17 | 9.3 | 10.3 | .9 | 4.4 | 2.1 | 6.1 | 1.5 | 11.5 | .8 | .0 | .0 |
| 331 | 10/20/77 | 17 | 9.8 | 7.3 | 1.3 | 8.9 | 1.0 | .0 | .0 | 8.9 | 1.0 | 5.9 | 1.6 |
| 332 | 10/21/77 | 17 | 10.6 | 4.8 | 2.2 | 10.9 | 1.0 | 9.8 | 1.1 | 12.0 | .9 | .0 | .0 |
| 333 | 10/24/77 | 17 | 5.4 | 3.4 | 1.6 | 6.1 | 1.0 | 6.4 | .8 | 8.0 | .7 | 2.6 | 2.0 |
| 334 | 10/25/77 | 17 | 6.0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | 2.6 | 2.3 |
| 335 | 10/26/77 | 17 | .0 | .0 | .0 | 7.9 | .0 | 7.0 | .0 | 9.4 | .0 | 3.6 | .0 |
| 336 | 10/27/77 | 17 | 12.0 | .0 | .0 | .0 | .0 | 8.6 | 1.4 | 7.6 | 1.6 | .0 | .0 |
| 337 | 10/28/77 | 17 | 11.6 | .0 | .0 | 12.8 | .9 | 12.3 | .9 | 13.6 | .8 | 6.5 | 1.8 |
| 338 | 10/31/77 | 17 | 5.5 | .0 | .0 | 6.1 | .9 | 6.9 | .8 | 8.3 | .7 | 2.7 | 2.0 |
| 339 | 11/01/77 | 17 | 3.8 | .0 | .0 | 3.5 | 1.1 | .0 | .0 | 4.6 | .8 | 1.7 | 2.1 |
| 340 | 11/02/77 | 17 | 3.3 | .0 | .0 | 4.9 | .7 | 5.9 | .6 | 7.3 | .5 | 2.2 | 1.5 |
| 341 | 10/06/77 | 18 | 4.9 | 6.0 | .8 | 10.6 | .6 | 9.4 | .5 | 9.6 | .5 | 6.0 | .8 |
| 342 | 10/07/77 | 18 | 3.9 | 6.4 | .6 | 5.9 | .7 | 6.0 | .6 | 4.8 | .8 | 3.5 | 1.1 |
| 343 | 10/10/77 | 18 | 4.8 | 9.1 | .5 | 7.0 | .7 | 6.6 | .7 | .0 | .0 | 4.9 | 1.0 |
| 344 | 10/11/77 | 18 | 5.2 | 10.0 | .5 | 7.8 | .7 | 7.4 | .7 | 13.3 | .4 | 3.0 | 1.7 |
| 345 | 10/12/77 | 18 | 3.7 | 4.1 | .0 | .0 | .0 | .0 | .0 | 8.5 | .4 | .0 | .0 |
| 346 | 10/13/77 | 18 | 5.6 | 8.9 | .6 | 3.7 | 1.5 | 6.0 | .9 | 9.9 | .6 | .0 | .0 |
| 347 | 10/14/77 | 18 | 5.4 | 11.1 | .5 | 6.3 | .9 | 5.9 | .9 | 15.8 | .3 | .0 | .0 |
| 348 | 10/17/77 | 18 | .0 | .0 | .0 | 4.9 | .0 | .0 | .0 | .0 | .0 | .0 | .0 |
| 349 | 10/18/77 | 18 | 4.2 | 7.0 | .6 | 7.3 | .6 | 5.6 | .7 | 6.0 | .7 | .0 | .0 |
| 350 | 10/19/77 | 18 | 5.8 | 10.3 | .6 | 4.4 | 1.3 | 6.1 | .9 | 11.5 | .5 | .0 | .0 |
| 351 | 10/20/77 | 18 | 4.7 | 7.3 | .6 | 8.9 | .5 | .0 | .0 | 8.9 | .5 | 5.9 | .8 |
| 352 | 10/21/77 | 18 | .0 | 4.8 | .0 | 10.9 | .0 | 9.8 | .0 | 12.0 | .0 | .0 | .0 |
| 353 | 10/24/77 | 18 | 3.2 | 3.4 | .0 | 6.1 | .6 | 6.4 | .5 | 8.0 | .4 | 2.6 | 1.2 |
| 354 | 10/25/77 | 18 | 2.0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | 2.6 | .8 |
| 355 | 10/26/77 | 18 | 2.7 | .0 | .0 | 7.9 | .3 | 7.0 | .4 | 9.4 | .3 | 3.6 | .7 |
| 356 | 10/27/77 | 18 | 5.5 | .0 | .0 | .0 | .0 | 8.6 | .6 | 7.6 | .7 | .0 | .0 |
| 357 | 10/28/77 | 18 | 7.4 | .0 | .0 | 12.8 | .6 | 12.3 | .6 | 13.6 | .5 | 6.5 | 1.1 |
| 358 | 10/31/77 | 18 | 3.3 | .0 | .0 | 6.1 | .5 | 6.9 | .5 | 8.3 | .4 | 2.7 | 1.2 |
| 359 | 11/01/77 | 18 | 1.6 | .0 | .0 | 3.5 | .3 | .0 | .0 | 4.6 | .2 | 1.7 | .5 |
| 360 | 11/02/77 | 18 | 1.8 | .0 | .0 | 4.9 | .4 | 5.9 | .3 | 7.3 | .3 | 2.2 | .8 |

# APPENDIX C

361-420 LIST

| RECNO | DATE | GIT | AUC | AUSJ | R.C.J | AUSU | R.C.U | AUSS | R.C.S | AUSP | R.C.P | AUSF | R.C.F |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 361 | 10/06/77 | 19 | 12.0 | 6.0 | 2.1 | 10.6 | 1.2 | 9.4 | 1.4 | 9.6 | 1.3 | 6.0 | 2.1 |
| 362 | 10/07/77 | 19 | 11.5 | 6.4 | 1.8 | 5.9 | 2.0 | 6.0 | 1.9 | 4.8 | 2.4 | 3.5 | 3.3 |
| 363 | 10/10/77 | 19 | 10.8 | 9.1 | 1.2 | 7.6 | 1.5 | 6.6 | 1.6 | .0 | .0 | 4.9 | 2.2 |
| 364 | 10/11/77 | 19 | 10.4 | 10.0 | 1.0 | 7.8 | 1.3 | 7.4 | 1.4 | 13.3 | .8 | 3.0 | 3.5 |
| 365 | 10/12/77 | 19 | 13.5 | 4.1 | 3.3 | .0 | .0 | .0 | .0 | 8.5 | 1.6 | .0 | .0 |
| 366 | 10/13/77 | 19 | 10.8 | 8.0 | 1.1 | 3.7 | 8.7 | 8.0 | 1.7 | 9.9 | 1.0 | .0 | .0 |
| 367 | 10/14/77 | 19 | 12.8 | 11.1 | 1.1 | 8.3 | 2.0 | 5.9 | 2.2 | 15.8 | .8 | .0 | .0 |
| 368 | 10/17/77 | 19 | 9.1 | .0 | .0 | 4.9 | 1.0 | .0 | .0 | .0 | .0 | .0 | .0 |
| 369 | 10/18/77 | 19 | 9.4 | 7.0 | 1.3 | 7.3 | 1.3 | 5.6 | 1.7 | 6.0 | 1.6 | .0 | .0 |
| 370 | 10/19/77 | 19 | 11.5 | 10.3 | 1.1 | 4.4 | 2.6 | 6.1 | 1.9 | 11.5 | 1.0 | .0 | .0 |
| 371 | 10/20/77 | 19 | 11.3 | 7.3 | 1.6 | 8.0 | 1.3 | .0 | .0 | 8.9 | 1.3 | 5.9 | 1.9 |
| 372 | 10/21/77 | 19 | 12.0 | 4.8 | 2.7 | 10.9 | 1.2 | 9.8 | 1.3 | 12.0 | 1.1 | .0 | .0 |
| 373 | 10/24/77 | 19 | 7.8 | 3.4 | 2.3 | 6.1 | 1.5 | 8.4 | 1.2 | 8.0 | 1.0 | 2.6 | 3.0 |
| 374 | 10/25/77 | 19 | 8.7 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | 2.6 | 3.3 |
| 375 | 10/26/77 | 19 | 9.5 | .0 | .0 | 7.9 | 1.2 | 7.0 | 1.4 | 9.4 | 1.0 | 3.6 | 2.6 |
| 376 | 10/27/77 | 19 | 12.2 | .0 | .0 | .0 | .0 | 8.6 | 1.4 | 7.6 | 1.6 | .0 | .0 |
| 377 | 10/28/77 | 19 | 13.8 | .0 | .0 | 12.0 | 1.1 | 12.3 | 1.1 | 13.6 | 1.0 | 6.5 | 2.1 |
| 378 | 10/31/77 | 19 | 9.3 | .0 | .0 | 6.1 | 1.5 | 6.9 | 1.3 | 8.3 | 1.1 | 2.7 | 3.4 |
| 379 | 11/01/77 | 19 | 6.2 | .0 | .0 | 3.5 | 1.5 | .0 | .0 | 4.6 | 1.1 | 1.7 | 3.0 |
| 380 | 11/02/77 | 19 | 8.0 | .0 | .0 | 4.9 | 1.6 | 5.9 | 1.4 | 7.3 | 1.1 | 2.2 | 3.5 |
| 381 | 10/06/77 | 20 | 4.0 | 6.0 | .7 | 10.6 | .4 | 9.4 | .4 | 9.6 | .4 | 6.0 | .7 |
| 382 | 10/07/77 | 20 | 2.6 | 6.4 | .4 | 5.9 | .4 | 6.0 | .4 | 4.8 | .5 | 3.5 | .7 |
| 383 | 10/10/77 | 20 | 3.7 | 9.1 | .4 | 7.6 | .5 | 6.6 | .6 | .0 | .0 | 4.9 | .8 |
| 384 | 10/11/77 | 20 | .0 | 10.0 | .0 | 7.8 | .0 | 7.4 | .0 | 13.3 | .0 | 3.0 | .0 |
| 385 | 10/12/77 | 20 | 3.0 | 4.1 | .0 | .0 | .0 | .0 | .0 | 8.5 | .5 | .0 | .0 |
| 386 | 10/13/77 | 20 | 2.4 | 8.9 | .3 | 3.7 | .6 | 6.0 | .4 | 9.9 | .2 | .0 | .0 |
| 387 | 10/14/77 | 20 | 4.0 | 11.1 | .4 | 6.3 | .6 | 5.9 | .7 | 15.8 | .3 | .0 | .0 |
| 388 | 10/17/77 | 20 | 3.5 | .0 | .0 | 4.9 | .7 | .0 | .0 | .0 | .0 | .0 | .0 |
| 389 | 10/18/77 | 20 | 3.7 | 7.0 | .5 | 7.3 | .5 | 6.6 | .7 | 6.0 | .6 | .0 | .0 |
| 390 | 10/19/77 | 20 | 3.5 | 10.3 | .3 | 4.4 | .8 | 6.1 | .6 | 11.5 | .3 | .0 | .0 |
| 391 | 10/20/77 | 20 | 4.1 | 7.3 | .6 | 8.9 | .6 | .0 | .0 | 8.9 | .5 | 5.9 | .7 |
| 392 | 10/21/77 | 20 | 3.5 | 4.8 | .7 | 10.9 | .3 | 9.8 | .4 | 12.0 | .3 | .0 | .0 |
| 393 | 10/24/77 | 20 | 2.2 | 3.4 | .7 | 5.1 | .4 | 6.4 | .3 | 8.0 | .3 | 2.6 | .8 |
| 394 | 10/25/77 | 20 | 1.7 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | 2.6 | .6 |
| 395 | 10/26/77 | 20 | 1.9 | .0 | .0 | 7.9 | .2 | 7.0 | .3 | 9.4 | .2 | 3.6 | .5 |
| 396 | 10/27/77 | 20 | 3.5 | .0 | .0 | .0 | .0 | 8.6 | .4 | 7.6 | .5 | .0 | .0 |
| 397 | 10/28/77 | 20 | 4.4 | .0 | .0 | 12.0 | .3 | 12.3 | .4 | 13.6 | .3 | 6.5 | .7 |
| 398 | 10/31/77 | 20 | 2.0 | .0 | .0 | 6.1 | .3 | 6.9 | .3 | 8.3 | .2 | 2.7 | .7 |
| 399 | 11/01/77 | 20 | 2.0 | .0 | .0 | 3.5 | .6 | .0 | .0 | 4.6 | .4 | 1.7 | 1.1 |
| 400 | 11/02/77 | 20 | 2.2 | .0 | .0 | 4.9 | .5 | 5.9 | .4 | 7.3 | .3 | 2.2 | 1.0 |
| 401 | 10/06/77 | 21 | .0 | 6.0 | .0 | 10.6 | .0 | 9.4 | .0 | 9.6 | .0 | 6.0 | .0 |
| 402 | 10/07/77 | 21 | .0 | 6.4 | .0 | 5.0 | .0 | 6.0 | .0 | 4.8 | .0 | 3.5 | .0 |
| 403 | 10/10/77 | 21 | .0 | 9.1 | .0 | 7.0 | .0 | 6.6 | .0 | .0 | .0 | 4.9 | .0 |
| 404 | 10/11/77 | 21 | .0 | 10.0 | .0 | 7.8 | .0 | 7.4 | .0 | 13.3 | .0 | 3.0 | .0 |
| 405 | 10/12/77 | 21 | .0 | 4.1 | .0 | .0 | .0 | .0 | .0 | 8.5 | .0 | .0 | .0 |
| 406 | 10/13/77 | 21 | .0 | 8.0 | .0 | 3.7 | .0 | 6.0 | .0 | 9.9 | .0 | .0 | .0 |
| 407 | 10/14/77 | 21 | .0 | 11.1 | .0 | 6.3 | .0 | 5.9 | .0 | 15.8 | .0 | .0 | .0 |
| 408 | 10/17/77 | 21 | .0 | .0 | .0 | 4.0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 |
| 409 | 10/18/77 | 21 | .0 | 7.0 | .0 | 7.3 | .0 | 5.6 | .0 | 6.0 | .0 | .0 | .0 |
| 410 | 10/19/77 | 21 | .0 | 10.3 | .0 | 4.4 | .0 | 6.1 | .0 | 11.5 | .0 | .0 | .0 |
| 411 | 10/20/77 | 21 | 5.4 | 7.3 | .7 | 8.0 | .0 | .0 | .0 | 8.9 | .6 | 5.9 | .0 |
| 412 | 10/21/77 | 21 | 4.3 | 4.8 | .0 | 10.9 | .4 | 9.8 | .4 | 12.0 | .4 | .0 | .0 |
| 413 | 10/24/77 | 21 | 3.0 | 3.4 | .0 | 6.1 | .6 | 6.4 | .5 | 8.0 | .4 | 2.6 | 1.1 |
| 414 | 10/25/77 | 21 | 2.0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | 2.6 | .0 |
| 415 | 10/26/77 | 21 | 2.6 | .0 | .0 | 7.9 | .3 | 7.0 | .4 | 9.4 | .3 | 3.6 | .7 |
| 416 | 10/27/77 | 21 | 6.7 | .0 | .0 | .0 | .0 | 8.6 | .8 | 7.6 | .0 | .0 | .0 |
| 417 | 10/28/77 | 21 | 7.1 | .0 | .0 | 12.0 | .0 | 12.3 | .6 | 13.6 | .5 | 6.5 | 1.1 |
| 418 | 10/31/77 | 21 | 3.0 | .0 | .0 | 6.1 | .6 | 6.9 | .4 | 8.3 | .4 | 2.7 | 1.1 |
| 419 | 11/01/77 | 21 | 1.4 | .0 | .0 | 3.5 | .4 | .0 | .0 | 4.6 | .3 | 1.7 | .0 |
| 420 | 11/02/77 | 21 | 2.5 | .0 | .0 | 4.9 | .5 | 5.9 | .4 | 7.3 | .3 | 2.8 | 1.1 |

APPENDIX C
20

# APPENDIX C

21

[illegible]

[illegible]

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 630 | 10/19/77 | 32 | 3.4 | 10.3 | .3 | 4.4 | .8 | 6.1 | .5 | 11.5 | .3 | .0 |
| 631 | 10/20/77 | 32 | .0 | 7.3 | .0 | 8.9 | .0 | .0 | .0 | 8.9 | .0 | 5.9 |
| 632 | 10/21/77 | 32 | .0 | 4.8 | .0 | 10.9 | .0 | 9.8 | .0 | 12.0 | .0 | .0 |
| 633 | 10/24/77 | 32 | .0 | 3.4 | .0 | 5.1 | .0 | 6.4 | .0 | 8.0 | .0 | 2.6 |
| 634 | 10/25/77 | 32 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | 8.6 |
| 635 | 10/26/77 | 32 | .0 | .0 | .0 | 7.9 | .0 | 7.0 | .0 | 9.4 | .0 | 3.6 |
| 636 | 10/27/77 | 32 | .0 | .0 | .0 | .0 | .0 | 8.6 | .0 | 7.6 | .0 | .0 |
| 637 | 10/28/77 | 32 | .0 | .0 | .0 | 12.8 | .0 | 12.3 | .0 | 13.6 | .0 | 6.5 |
| 638 | 10/31/77 | 32 | .0 | .0 | .0 | 6.1 | .0 | 6.9 | .0 | 8.3 | .0 | 2.7 |
| 639 | 11/01/77 | 32 | .0 | .0 | .0 | 3.5 | .0 | .0 | .0 | 4.6 | .0 | 1.7 |
| 640 | 11/02/77 | 32 | .0 | .0 | .0 | 4.9 | .0 | 5.9 | .0 | 7.3 | .0 | 2.2 |
| 641 | 10/06/77 | 33 | .0 | 6.0 | .0 | 10.6 | .0 | 9.4 | .0 | 9.6 | .0 | 6.0 |
| 642 | 10/07/77 | 33 | 8.0 | 6.4 | .3 | 5.9 | .3 | 6.0 | .3 | 4.8 | .4 | 3.5 |
| 643 | 10/10/77 | 33 | 4.6 | 9.1 | .5 | 7.0 | .7 | 6.6 | .7 | .0 | .0 | 4.9 |
| 644 | 10/11/77 | 33 | 2.4 | 10.0 | .2 | 7.8 | .3 | 7.4 | .3 | 13.3 | .2 | 3.0 |
| 645 | 10/12/77 | 33 | .0 | 4.1 | .0 | .0 | .0 | .0 | .0 | 8.5 | .0 | .0 |
| 646 | 10/13/77 | 33 | 2.5 | 8.0 | .3 | 3.7 | .7 | 6.0 | .4 | 9.9 | .3 | .0 |
| 647 | 10/14/77 | 33 | 4.0 | 11.1 | .4 | 6.3 | .6 | 5.9 | .7 | 15.8 | .3 | .0 |
| 648 | 10/17/77 | 33 | 4.2 | .0 | .0 | 4.9 | .9 | .0 | .0 | .0 | .0 | .0 |
| 649 | 10/18/77 | 33 | 3.4 | 7.0 | .4 | 7.3 | .4 | 6.6 | .6 | 6.0 | .5 | .0 |
| 650 | 10/19/77 | 33 | 3.6 | 10.3 | .4 | 4.4 | .8 | 6.1 | .6 | 11.5 | .3 | .0 |
| 651 | 10/20/77 | 33 | .0 | 7.3 | .0 | 8.9 | .0 | .0 | .0 | 8.9 | .0 | 5.9 |
| 652 | 10/21/77 | 33 | .0 | 4.8 | .0 | 10.9 | .0 | 9.8 | .0 | 12.0 | .0 | .0 |
| 653 | 10/24/77 | 33 | .0 | 3.4 | .0 | 5.1 | .0 | 6.4 | .0 | 8.0 | .0 | 8.6 |
| 654 | 10/25/77 | 33 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | 2.6 |
| 655 | 10/26/77 | 33 | .0 | .0 | .0 | 7.9 | .0 | 7.0 | .0 | 9.4 | .0 | 3.6 |
| 656 | 10/27/77 | 33 | .0 | .0 | .0 | .0 | .0 | 8.6 | .0 | 7.6 | .0 | .0 |
| 657 | 10/28/77 | 33 | .0 | .0 | .0 | 12.8 | .0 | 12.3 | .0 | 13.6 | .0 | 6.5 |
| 658 | 10/31/77 | 33 | .0 | .0 | .0 | 6.1 | .0 | 6.9 | .0 | 8.3 | .0 | 2.7 |
| 659 | 11/01/77 | 33 | .0 | .0 | .0 | 3.6 | .0 | .0 | .0 | 4.6 | .0 | 1.7 |
| 660 | 11/02/77 | 33 | .0 | .0 | .0 | 4.9 | .0 | 5.9 | .0 | 7.3 | .0 | 2.2 |

| | | | |
|---|---|---|---|
| 630 | 10/19/77 | 32 | .0 |
| 631 | 10/20/77 | 32 | .0 |
| 632 | 10/21/77 | 32 | .0 |
| 633 | 10/24/77 | 32 | .0 |
| 634 | 10/25/77 | 32 | .0 |
| 635 | 10/26/77 | 32 | .0 |
| 636 | 10/27/77 | 32 | .0 |
| 637 | 10/28/77 | 32 | .0 |
| 638 | 10/31/77 | 32 | .0 |
| 639 | 11/01/77 | 32 | .0 |
| 640 | 11/02/77 | 32 | .0 |
| 641 | 10/06/77 | 33 | .0 |
| 642 | 10/07/77 | 33 | .0 |
| 643 | 10/10/77 | 33 | .6 |
| 644 | 10/11/77 | 33 | .9 |
| 645 | 10/12/77 | 33 | .0 |
| 646 | 10/13/77 | 33 | .0 |
| 647 | 10/14/77 | 33 | .0 |
| 648 | 10/17/77 | 33 | .0 |
| 649 | 10/18/77 | 33 | .0 |
| 650 | 10/19/77 | 33 | .0 |
| 651 | 10/20/77 | 33 | .0 |
| 652 | 10/21/77 | 33 | .0 |
| 653 | 10/24/77 | 33 | .0 |
| 654 | 10/25/77 | 33 | .0 |
| 655 | 10/26/77 | 33 | .0 |
| 656 | 10/27/77 | 33 | .0 |
| 657 | 10/28/77 | 33 | .0 |
| 658 | 10/31/77 | 33 | .0 |
| 659 | 11/01/77 | 33 | .0 |
| 660 | 11/02/77 | 33 | .0 |

661-720 LIST

| RECNO | DATE | SIT | AVC | AVSJ | R.C.J | AVSU | R.C.U | AVSS | R.C.S | AVSP | R.C.P | AVSF | R.C.F |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 661 | 10/06/77 | 34 | 7.4 | 6.0 | 1.2 | 10.6 | .7 | 9.4 | .0 | 9.6 | .0 | 6.0 | 1.2 |
| 662 | 10/07/77 | 34 | 5.9 | 6.4 | .9 | 5.9 | 1.0 | 6.0 | 1.0 | 4.8 | 1.2 | 3.6 | 1.7 |
| 663 | 10/10/77 | 34 | 6.6 | 9.1 | .7 | 7.0 | .0 | 6.6 | 1.0 | .0 | .0 | 4.0 | 1.3 |
| 664 | 10/11/77 | 34 | 6.1 | 10.0 | .6 | 7.8 | .8 | 7.4 | .0 | 13.3 | .5 | 3.0 | 2.0 |
| 665 | 10/12/77 | 34 | 5.0 | 4.1 | 1.2 | .0 | .0 | .0 | .0 | 8.5 | .6 | .0 | .0 |
| 666 | 10/13/77 | 34 | 3.8 | 8.9 | .4 | 3.7 | 1.0 | 6.0 | .6 | 9.9 | .4 | .0 | .0 |
| 667 | 10/14/77 | 34 | 6.0 | 11.1 | .4 | 6.3 | .8 | 5.9 | .9 | 15.8 | .3 | .0 | .0 |
| 668 | 10/17/77 | 34 | 6.6 | .0 | .0 | 4.9 | 1.3 | .0 | .0 | .0 | .0 | .0 | .0 |
| 669 | 10/18/77 | 34 | 8.0 | 7.0 | 1.1 | 7.3 | 1.1 | 5.6 | 1.4 | 6.0 | 1.3 | .0 | .0 |
| 670 | 10/19/77 | 34 | .0 | 10.3 | .0 | 4.4 | .0 | 6.1 | .0 | 11.5 | .0 | .0 | .0 |
| 671 | 10/20/77 | 34 | 6.9 | 7.3 | 1.0 | 8.9 | .8 | .0 | .0 | 8.9 | .8 | 5.9 | 1.2 |
| 672 | 10/21/77 | 34 | .0 | 4.8 | .0 | 10.9 | .0 | 9.8 | .0 | 12.0 | .0 | .0 | .0 |
| 673 | 10/24/77 | 34 | 4.7 | 3.4 | 1.4 | 5.1 | .0 | 6.4 | .7 | 8.0 | .6 | 2.6 | 1.8 |
| 674 | 10/25/77 | 34 | 4.7 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | 2.6 | 1.8 |
| 675 | 10/26/77 | 34 | 5.3 | .0 | .0 | 7.9 | .7 | 7.0 | .8 | 9.4 | .6 | 3.6 | 1.4 |
| 676 | 10/27/77 | 34 | 8.7 | .0 | .0 | .0 | .0 | 8.6 | 1.0 | 7.6 | 1.1 | .0 | .0 |
| 677 | 10/28/77 | 34 | 10.3 | .0 | .0 | 12.8 | .8 | 12.3 | .8 | 13.6 | .8 | 6.5 | 1.6 |
| 678 | 10/31/77 | 34 | 6.3 | .0 | .0 | 6.1 | 1.0 | 6.9 | .9 | 8.3 | .8 | 2.7 | 2.3 |
| 679 | 11/01/77 | 34 | 2.7 | .0 | .0 | 3.6 | .8 | .0 | .0 | 4.6 | .6 | 1.7 | 1.5 |
| 680 | 11/02/77 | 34 | 5.0 | .0 | .0 | 4.9 | 1.0 | 5.9 | .8 | 7.3 | .7 | 2.2 | 2.2 |
| 681 | 10/06/77 | 35 | .0 | 6.0 | .0 | 10.6 | .0 | 9.4 | .0 | 9.6 | .0 | 6.0 | .0 |
| 682 | 10/07/77 | 35 | .0 | 6.4 | .0 | 5.9 | .0 | 6.0 | .0 | 4.8 | .0 | 3.6 | .0 |
| 683 | 10/10/77 | 35 | .0 | 9.1 | .0 | 7.0 | .0 | 6.6 | .0 | .0 | .0 | 4.0 | .0 |
| 684 | 10/11/77 | 35 | .0 | 10.0 | .0 | 7.8 | .0 | 7.4 | .0 | 13.3 | .0 | 3.0 | .0 |
| 685 | 10/12/77 | 35 | .0 | 4.1 | .0 | .0 | .0 | .0 | .0 | 8.5 | .0 | .0 | .0 |
| 686 | 10/13/77 | 35 | .0 | 8.9 | .0 | 3.7 | .0 | 6.0 | .0 | 9.9 | .0 | .0 | .0 |
| 687 | 10/14/77 | 35 | .0 | 11.1 | .0 | 6.3 | .0 | 5.9 | .0 | 15.8 | .0 | .0 | .0 |
| 688 | 10/17/77 | 35 | .0 | .0 | .0 | 4.9 | .0 | .0 | .0 | .0 | .0 | .0 | .0 |
| 689 | 10/18/77 | 35 | .0 | 7.0 | .0 | 7.3 | .0 | 5.6 | .0 | 6.0 | .0 | .0 | .0 |
| 690 | 10/19/77 | 35 | .0 | 10.3 | .0 | 4.4 | .0 | 6.1 | .0 | 11.5 | .0 | .0 | .0 |
| 691 | 10/20/77 | 35 | 4.4 | 7.3 | .6 | 8.9 | .5 | .0 | .0 | 8.9 | .5 | 5.9 | .7 |
| 692 | 10/21/77 | 35 | 5.0 | 4.8 | 1.1 | 10.9 | .5 | 9.8 | .5 | 12.0 | .4 | .0 | .0 |
| 693 | 10/24/77 | 35 | 3.6 | 3.4 | 1.0 | 5.1 | .7 | 6.4 | .5 | 8.0 | .4 | 2.6 | 1.3 |
| 694 | 10/25/77 | 35 | 2.4 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | 2.6 | .9 |
| 695 | 10/26/77 | 35 | 2.9 | .0 | .0 | 7.9 | .4 | 7.0 | .4 | 9.4 | .3 | 3.6 | .8 |
| 696 | 10/27/77 | 35 | 5.7 | .0 | .0 | .0 | .0 | 8.6 | .7 | 7.6 | .7 | .0 | .0 |
| 697 | 10/28/77 | 35 | 5.1 | .0 | .0 | 12.8 | .4 | 12.3 | .4 | 13.6 | .4 | 6.5 | .8 |
| 698 | 10/31/77 | 35 | 3.0 | .0 | .0 | 6.1 | .5 | 6.9 | .4 | 8.3 | .4 | 2.7 | 1.1 |
| 699 | 11/01/77 | 35 | 1.5 | .0 | .0 | 3.6 | .4 | .0 | .0 | 4.6 | .3 | 1.7 | .9 |
| 700 | 11/02/77 | 35 | 2.4 | .0 | .0 | 4.9 | .5 | 5.9 | .4 | 7.3 | .3 | 2.2 | 1.1 |
| 701 | 10/06/77 | 36 | .0 | 6.0 | .0 | 10.6 | .0 | 9.4 | .0 | 9.6 | .0 | 6.0 | .0 |
| 702 | 10/07/77 | 36 | 9.2 | 6.4 | 1.4 | 5.9 | 1.6 | 6.0 | 1.5 | 4.8 | 1.9 | 3.6 | 2.6 |
| 703 | 10/10/77 | 36 | 11.4 | 9.1 | 1.2 | 7.0 | 1.6 | 6.6 | 1.7 | .0 | .0 | 4.0 | 2.3 |
| 704 | 10/11/77 | 36 | .0 | 10.0 | .0 | 7.8 | .0 | 7.4 | .0 | 13.3 | .0 | 3.0 | .0 |
| 705 | 10/12/77 | 36 | 4.9 | 4.1 | 1.2 | .0 | .0 | .0 | .0 | 8.5 | .6 | .0 | .0 |
| 706 | 10/13/77 | 36 | 8.6 | 8.9 | 1.0 | 3.7 | 2.3 | 6.0 | 1.4 | 9.9 | .0 | .0 | .0 |
| 707 | 10/14/77 | 36 | 11.1 | 11.1 | 1.0 | 6.3 | 1.8 | 5.9 | 1.9 | 15.8 | .7 | .0 | .0 |
| 708 | 10/17/77 | 36 | 11.1 | .0 | .0 | 4.9 | 2.3 | .0 | .0 | .0 | .0 | .0 | .0 |
| 709 | 10/18/77 | 36 | 9.3 | 7.0 | 1.3 | 7.3 | 1.3 | 5.6 | 1.7 | 6.0 | 1.6 | .0 | .0 |
| 710 | 10/19/77 | 36 | 10.0 | 10.3 | 1.0 | 4.4 | 2.3 | 6.1 | 1.6 | 11.5 | .0 | .0 | .0 |
| 711 | 10/20/77 | 36 | 9.2 | 7.3 | 1.3 | 8.9 | 1.0 | .0 | .0 | 8.9 | 1.0 | 5.9 | 1.6 |
| 712 | 10/21/77 | 36 | 7.1 | 4.8 | 1.5 | 10.9 | .7 | 9.8 | .7 | 12.0 | .6 | .0 | .0 |
| 713 | 10/24/77 | 36 | 3.6 | 3.4 | 1.0 | 5.1 | .7 | 6.4 | .5 | 8.0 | .4 | 2.6 | 1.3 |
| 714 | 10/25/77 | 36 | 6.1 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | 2.6 | 2.3 |
| 715 | 10/26/77 | 36 | 8.4 | .0 | .0 | 7.9 | .3 | 7.0 | .3 | 9.4 | .3 | 3.6 | .0 |
| 716 | 10/27/77 | 36 | 6.6 | .0 | .0 | .0 | .0 | 8.6 | .8 | 7.6 | .0 | .0 | .0 |
| 717 | 10/28/77 | 36 | .0 | .0 | .0 | 12.8 | .0 | 12.3 | .0 | 13.6 | .0 | 6.5 | .0 |
| 718 | 10/31/77 | 36 | 3.6 | .0 | .0 | 6.1 | .6 | 6.9 | .5 | 8.3 | .4 | 2.7 | 1.3 |
| 719 | 11/01/77 | 36 | 2.8 | .0 | .0 | 3.6 | .8 | .0 | .0 | 4.6 | .6 | 1.7 | 1.6 |
| 720 | 11/02/77 | 36 | 2.5 | .0 | .0 | 4.9 | .5 | 5.9 | .4 | 7.3 | .4 | 2.2 | 1.1 |

## FOOTNOTE PAGE FOR TABLE C-2

1. Average carbon monoxide (in ppm) for the 10:00 a.m. to 6:00 p.m. period at each EPA study site.
2. Average carbon monoxide (in ppm) for the 10:00 a.m. to 6:00 p.m. period at the James Street (James E/O 4th, north side) permanent site.
3. Ratio of values from footnote 1 to values from footnote 2.
4. Average carbon monoxide (in ppm) for the 10:00 a.m. to 6:00 p.m. period at the University Street (2nd S/O University, west side) permanent site.
5. Ratio of values from footnote 1 to values from footnote 4.
6. Average carbon monoxide (in ppm) for the 10:00 a.m. to 6:00 p.m. period at the Singer (Pike E/O 4th, south side) permanent site.
7. Ratio of values from footnote 1 to values from footnote 6.
8. Average carbon monoxide (in ppm) for the 10:00 a.m. to 6:00 p.m. period at the Pike Street (4th S/O Pike, east side) permanent site.
9. Ratio of values from footnote 1 to values from footnote 8.
10. Average carbon monoxide (in ppm) for the 10:00 a.m. to 6:00 p.m. period at the Fire Station (2nd S/O Main, west side) permanent site.
11. Ratio of values from footnote 1 to values from footnote 10.

NOTE: Any appearance of zero as a data entry indicates the absence of valid data and should not be confused with a reported value of zero. All viable samples during the survey had detectable CO. Values of zero were omitted from statistical calculations.

# TABLE C-3
## COMPARISON OF EPA STUDY SITE AVERAGE CARBON MONOXIDE CONCENTRATIONS TO EPA STUDY SITE/PERMANENT SITE RATIOS
( SORTED BY SITE AND STUDY SITE AVERAGE )

| RECNO | DATE | SIT | AUC[1] | R.C.J[2] | AUC[3] | R.C.U[4] | AUC[5] | R.C.S[6] | AUC[7] | R.C.P[8] | AUC[9] | R.C.F[10] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 10/28/77 | 1 | 16.1 | .0 | 16.1 | 1.3 | 16.1 | 1.3 | 16.1 | 1.2 | 16.1 | 2.5 |
| 2 | 10/27/77 | 1 | 11.7 | .0 | 11.7 | .0 | 11.7 | 1.4 | 11.7 | 1.5 | 11.7 | .0 |
| 3 | 10/07/77 | 1 | 11.6 | 1.0 | 11.6 | 2.0 | 11.6 | 1.9 | 11.6 | 2.4 | 11.6 | 3.3 |
| 4 | 10/06/77 | 1 | 11.5 | 1.9 | 11.5 | 1.1 | 11.5 | 1.2 | 11.5 | 1.2 | 11.5 | 1.9 |
| 5 | 10/10/77 | 1 | 10.9 | 1.2 | 10.9 | 1.6 | 10.9 | 1.6 | 10.9 | .0 | 10.9 | 2.2 |
| 6 | 10/18/77 | 1 | 9.7 | 1.4 | 9.7 | 1.3 | 9.7 | 1.7 | 9.7 | 1.6 | 9.7 | .0 |
| 7 | 10/11/77 | 1 | 8.6 | .9 | 8.6 | 1.1 | 8.6 | 1.8 | 8.6 | .6 | 8.6 | 2.9 |
| 8 | 10/17/77 | 1 | 8.5 | .0 | 8.5 | 1.7 | 8.5 | .0 | 8.5 | .0 | 8.5 | .0 |
| 9 | 10/21/77 | 1 | 8.4 | 1.8 | 8.4 | .8 | 8.4 | .0 | 8.4 | .7 | 8.4 | .0 |
| 10 | 10/31/77 | 1 | 7.3 | .0 | 7.3 | 1.2 | 7.3 | 1.1 | 7.3 | .9 | 7.3 | 2.7 |
| 11 | 10/14/77 | 1 | 6.9 | .8 | 6.9 | 1.1 | 6.9 | 1.2 | 6.9 | .4 | 6.9 | .0 |
| 12 | 10/25/77 | 1 | 6.6 | .0 | 6.6 | .0 | 6.6 | .0 | 6.6 | .0 | 6.6 | 2.5 |
| 13 | 10/19/77 | 1 | 6.5 | .8 | 6.5 | 1.5 | 6.5 | 1.1 | 6.5 | .6 | 6.5 | .0 |
| 14 | 11/02/77 | 1 | 6.3 | .0 | 6.3 | 1.3 | 6.3 | 1.1 | 6.3 | .9 | 6.3 | 2.8 |
| 15 | 10/26/77 | 1 | 5.8 | .0 | 5.8 | .7 | 5.8 | .8 | 5.8 | .6 | 5.8 | 1.6 |
| 16 | 10/24/77 | 1 | 5.5 | 1.6 | 5.5 | 1.1 | 5.5 | .9 | 5.5 | .7 | 5.5 | 2.1 |
| 17 | 10/13/77 | 1 | 5.2 | .6 | 5.2 | 1.4 | 5.2 | .9 | 5.2 | .5 | 5.2 | .0 |
| 18 | 11/01/77 | 1 | 2.9 | .0 | 2.9 | .8 | 2.9 | .0 | 2.9 | .6 | 2.9 | 1.7 |
| 19 | 10/12/77 | 1 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 |
| 20 | 10/20/77 | 1 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 |
| 21 | 10/27/77 | 2 | 7.4 | .0 | 7.4 | .0 | 7.4 | .9 | 7.4 | 1.0 | 7.4 | .0 |
| 22 | 10/28/77 | 2 | 7.0 | .0 | 7.0 | .5 | 7.0 | .6 | 7.0 | .5 | 7.0 | 1.1 |
| 23 | 10/18/77 | 2 | 4.7 | .7 | 4.7 | .6 | 4.7 | .8 | 4.7 | .8 | 4.7 | .0 |
| 24 | 10/10/77 | 2 | 4.6 | .5 | 4.6 | .7 | 4.6 | .7 | 4.6 | .0 | 4.6 | .9 |
| 25 | 10/21/77 | 2 | 4.6 | 1.0 | 4.6 | .4 | 4.6 | .5 | 4.6 | .4 | 4.6 | .0 |
| 26 | 10/06/77 | 2 | 4.5 | .8 | 4.5 | .4 | 4.5 | .5 | 4.5 | .5 | 4.5 | .8 |
| 27 | 10/14/77 | 2 | 4.1 | .4 | 4.1 | .7 | 4.1 | .7 | 4.1 | .3 | 4.1 | .0 |
| 28 | 10/17/77 | 2 | 4.0 | .0 | 4.0 | .8 | 4.0 | .0 | 4.0 | .0 | 4.0 | .0 |
| 29 | 10/12/77 | 2 | 3.9 | .9 | 3.9 | .0 | 3.9 | .0 | 3.9 | .5 | 3.9 | .0 |
| 30 | 10/20/77 | 2 | 3.9 | .5 | 3.9 | .4 | 3.9 | .0 | 3.9 | .4 | 3.9 | .7 |
| 31 | 10/19/77 | 2 | 3.6 | .4 | 3.6 | .8 | 3.6 | .6 | 3.6 | .3 | 3.6 | .0 |
| 32 | 10/11/77 | 2 | 3.4 | .3 | 3.4 | .4 | 3.4 | .5 | 3.4 | .3 | 3.4 | 1.1 |
| 33 | 10/13/77 | 2 | 3.4 | .4 | 3.4 | .0 | 3.4 | .6 | 3.4 | .3 | 3.4 | .0 |
| 34 | 10/07/77 | 2 | 2.9 | .5 | 2.9 | .5 | 2.9 | .5 | 2.9 | .6 | 2.9 | .8 |
| 35 | 10/25/77 | 2 | 2.7 | .0 | 2.7 | .0 | 2.7 | .0 | 2.7 | .0 | 2.7 | 1.0 |
| 36 | 10/24/77 | 2 | 2.6 | .8 | 2.6 | .5 | 2.6 | .4 | 2.6 | .3 | 2.6 | 1.0 |
| 37 | 11/02/77 | 2 | 1.8 | .0 | 1.8 | .4 | 1.8 | .3 | 1.8 | .3 | 1.8 | .8 |
| 38 | 10/31/77 | 2 | 1.4 | .0 | 1.4 | .2 | 1.4 | .2 | 1.4 | .2 | 1.4 | .5 |
| 39 | 11/01/77 | 2 | 1.2 | .0 | 1.2 | .3 | 1.2 | .0 | 1.2 | .3 | 1.2 | .7 |
| 40 | 10/26/77 | 2 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 |
| 41 | 10/28/77 | 3 | 11.0 | .0 | 11.0 | .9 | 11.0 | .9 | 11.0 | .8 | 11.0 | 1.7 |
| 42 | 10/06/77 | 3 | 10.2 | 1.7 | 10.2 | 1.0 | 10.2 | 1.1 | 10.2 | 1.1 | 10.2 | 1.7 |
| 43 | 10/21/77 | 3 | 8.5 | 1.8 | 8.5 | .8 | 8.5 | .9 | 8.5 | .7 | 8.5 | .0 |
| 44 | 10/27/77 | 3 | 7.2 | .0 | 7.2 | .0 | 7.2 | .8 | 7.2 | .9 | 7.2 | .0 |
| 45 | 11/02/77 | 3 | 6.9 | .0 | 6.9 | 1.4 | 6.9 | 1.2 | 6.9 | 1.0 | 6.9 | 3.1 |
| 46 | 10/20/77 | 3 | 6.4 | .9 | 6.4 | .7 | 6.4 | .0 | 6.4 | .7 | 6.4 | 1.1 |
| 47 | 10/12/77 | 3 | 6.3 | 1.5 | 6.3 | .0 | 6.3 | .0 | 6.3 | .7 | 6.3 | .0 |
| 48 | 10/26/77 | 3 | 6.0 | .0 | 6.0 | .8 | 6.0 | .9 | 6.0 | .6 | 6.0 | 1.7 |
| 49 | 10/17/77 | 3 | 4.8 | .0 | 4.8 | 1.0 | 4.8 | .0 | 4.8 | .0 | 4.8 | .0 |
| 50 | 10/18/77 | 3 | 4.3 | .6 | 4.3 | .6 | 4.3 | .8 | 4.3 | .7 | 4.3 | .0 |
| 51 | 10/10/77 | 3 | 4.2 | .6 | 4.2 | .6 | 4.2 | .6 | 4.2 | .0 | 4.2 | .9 |
| 52 | 10/14/77 | 3 | 4.1 | .4 | 4.1 | .7 | 4.1 | .7 | 4.1 | .3 | 4.1 | .0 |
| 53 | 10/24/77 | 3 | 4.1 | 1.2 | 4.1 | .8 | 4.1 | .8 | 4.1 | .6 | 4.1 | 1.5 |
| 54 | 10/31/77 | 3 | 4.1 | .0 | 4.1 | .7 | 4.1 | .8 | 4.1 | .5 | 4.1 | 1.5 |
| 55 | 10/13/77 | 3 | 4.0 | .6 | 4.0 | 1.1 | 4.0 | .7 | 4.0 | .4 | 4.0 | .0 |
| 56 | 10/11/77 | 3 | 3.7 | .4 | 3.7 | .6 | 3.7 | .5 | 3.7 | .3 | 3.7 | 1.2 |
| 57 | 10/07/77 | 3 | 3.0 | .5 | 3.0 | .6 | 3.0 | .5 | 3.0 | .6 | 3.0 | .9 |
| 58 | 11/01/77 | 3 | 2.7 | .0 | 2.7 | .8 | 2.7 | .0 | 2.7 | .6 | 2.7 | 1.5 |
| 59 | 10/19/77 | 3 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 |
| 60 | 10/25/77 | 3 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 |

1-10 SEE FOOTNOTE PAGE

| RECNO | DATE | SIT | AVC ⟶ | R.C.J | AVC ⟶ | R.C.U | AVC ⟶ | R.C.S | AVC ⟶ | R.C.P | AVC ⟶ | R.C.F |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 61 | 10/28/77 | 4 | 11.8 | .0 | 11.8 | .9 | 11.8 | 1.0 | 11.8 | .9 | 11.8 | 1.8 |
| 62 | 10/21/77 | 4 | 10.6 | 2.2 | 10.6 | 1.3 | 10.5 | 1.1 | 10.5 | .9 | 10.6 | .0 |
| 63 | 10/06/77 | 4 | 10.0 | 1.7 | 10.0 | .9 | 10.0 | 1.1 | 10.0 | 1.0 | 10.0 | 1.7 |
| 64 | 10/27/77 | 4 | 9.3 | .0 | 9.3 | .0 | 9.3 | 1.1 | 9.3 | 1.2 | 9.3 | .0 |
| 65 | 10/07/77 | 4 | 9.0 | 1.4 | 9.0 | 1.5 | 9.0 | 1.5 | 9.0 | 1.9 | 9.0 | 2.6 |
| 66 | 10/18/77 | 4 | 8.6 | 1.2 | 8.6 | 1.2 | 8.6 | 1.5 | 8.6 | 1.4 | 8.6 | .0 |
| 67 | 10/20/77 | 4 | 7.7 | 1.1 | 7.7 | .9 | 7.7 | .0 | 7.7 | .9 | 7.7 | 1.3 |
| 68 | 10/12/77 | 4 | 7.5 | 1.8 | 7.5 | .0 | 7.5 | .0 | 7.5 | .9 | 7.5 | .0 |
| 69 | 10/14/77 | 4 | 7.1 | .6 | 7.1 | 1.1 | 7.1 | 1.2 | 7.1 | .4 | 7.1 | .0 |
| 70 | 10/11/77 | 4 | 6.9 | .7 | 6.9 | .9 | 6.9 | .9 | 6.9 | .5 | 6.9 | 2.3 |
| 71 | 10/31/77 | 4 | 6.9 | .0 | 6.9 | 1.1 | 6.9 | 1.0 | 6.9 | .8 | 6.9 | 2.5 |
| 72 | 10/10/77 | 4 | 6.8 | .7 | 6.8 | 1.0 | 6.8 | 1.0 | 6.8 | .0 | 6.8 | 1.4 |
| 73 | 10/19/77 | 4 | 6.1 | .6 | 6.1 | 1.4 | 6.1 | 1.0 | 6.1 | .5 | 6.1 | .0 |
| 74 | 10/26/77 | 4 | 6.0 | .0 | 6.0 | .8 | 6.0 | .9 | 6.0 | .6 | 6.0 | 1.6 |
| 75 | 11/02/77 | 4 | 5.8 | .0 | 5.8 | 1.2 | 5.8 | 1.0 | 5.8 | .8 | 5.8 | 2.6 |
| 76 | 10/24/77 | 4 | 5.1 | 1.5 | 5.1 | 1.0 | 5.1 | .8 | 5.1 | .6 | 5.1 | 1.9 |
| 77 | 10/13/77 | 4 | 4.6 | .6 | 4.6 | 1.2 | 4.6 | .8 | 4.6 | .5 | 4.6 | .0 |
| 78 | 11/01/77 | 4 | 3.0 | .0 | 3.0 | .8 | 3.0 | .0 | 3.0 | .6 | 3.0 | 1.7 |
| 79 | 10/17/77 | 4 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 |
| 80 | 10/25/77 | 4 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 |
| 81 | 10/27/77 | 5 | 13.7 | .0 | 13.7 | .0 | 13.7 | 1.6 | 13.7 | 1.8 | 13.7 | .0 |
| 82 | 10/28/77 | 5 | 11.9 | .0 | 11.9 | .9 | 11.9 | 1.0 | 11.9 | .9 | 11.9 | 1.8 |
| 83 | 10/21/77 | 5 | 11.5 | 2.4 | 11.5 | 1.1 | 11.5 | 1.2 | 11.5 | 1.0 | 11.5 | .0 |
| 84 | 10/10/77 | 5 | 10.8 | 1.2 | 10.8 | 1.5 | 10.8 | 1.6 | 10.8 | .0 | 10.8 | 2.2 |
| 85 | 10/14/77 | 5 | 9.2 | .8 | 9.2 | 1.5 | 9.2 | 1.6 | 9.2 | .6 | 9.2 | .0 |
| 86 | 10/20/77 | 5 | 9.2 | 1.3 | 9.2 | 1.0 | 9.2 | .0 | 9.2 | 1.0 | 9.2 | 1.6 |
| 87 | 10/18/77 | 5 | 8.5 | 1.2 | 8.5 | 1.2 | 8.5 | 1.5 | 8.5 | 1.4 | 8.5 | .0 |
| 88 | 10/07/77 | 5 | 7.3 | 1.1 | 7.3 | 1.2 | 7.3 | 1.2 | 7.3 | 1.5 | 7.3 | 2.1 |
| 89 | 10/11/77 | 5 | 7.3 | .7 | 7.3 | .9 | 7.3 | 1.0 | 7.3 | .5 | 7.3 | 2.4 |
| 90 | 10/24/77 | 5 | 6.7 | 2.0 | 6.7 | 1.3 | 6.7 | 1.0 | 6.7 | .8 | 6.7 | 2.5 |
| 91 | 10/17/77 | 5 | 5.7 | .0 | 5.7 | 1.2 | 5.7 | .0 | 5.7 | .0 | 5.7 | .0 |
| 92 | 10/26/77 | 5 | 5.7 | .0 | 5.7 | .7 | 5.7 | .8 | 5.7 | .6 | 5.7 | 1.6 |
| 93 | 10/19/77 | 5 | 5.6 | .5 | 5.6 | 1.3 | 5.6 | .9 | 5.6 | .5 | 5.6 | .0 |
| 94 | 10/31/77 | 5 | 5.1 | .0 | 5.1 | .8 | 5.1 | .7 | 6.1 | .6 | 5.1 | 1.8 |
| 95 | 11/02/77 | 5 | 4.2 | .0 | 4.2 | .9 | 4.2 | .7 | 4.2 | .6 | 4.2 | 1.9 |
| 96 | 10/13/77 | 5 | 4.2 | .5 | 4.2 | 1.1 | 4.2 | .7 | 4.2 | .4 | 4.2 | .0 |
| 97 | 11/01/77 | 5 | 2.2 | .0 | 2.2 | .6 | 2.2 | .0 | 2.2 | .5 | 2.2 | 1.3 |
| 98 | 10/06/77 | 5 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 |
| 99 | 10/12/77 | 5 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 |
| 100 | 10/25/77 | 5 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 |
| 101 | 10/19/77 | 6 | 7.9 | .8 | 7.9 | 1.8 | 7.9 | 1.3 | 7.9 | .7 | 7.9 | .0 |
| 102 | 10/10/77 | 6 | 7.4 | .8 | 7.4 | 1.1 | 7.4 | 1.1 | 7.4 | .0 | 7.4 | 1.5 |
| 103 | 10/13/77 | 6 | 7.4 | .8 | 7.4 | 2.0 | 7.4 | 1.2 | 7.4 | .7 | 7.4 | .0 |
| 104 | 10/28/77 | 6 | 6.6 | .0 | 6.6 | .5 | 6.6 | .5 | 6.6 | .5 | 6.6 | 1.0 |
| 105 | 10/14/77 | 6 | 5.8 | .5 | 5.8 | .9 | 5.8 | 1.0 | 5.8 | .4 | 5.8 | .0 |
| 106 | 10/20/77 | 6 | 5.6 | .8 | 5.6 | .6 | 5.6 | .0 | 5.6 | .6 | 5.6 | .9 |
| 107 | 10/21/77 | 6 | 5.3 | 1.1 | 5.3 | .5 | 5.3 | .5 | 5.3 | .4 | 5.3 | .0 |
| 108 | 10/27/77 | 6 | 5.1 | .0 | 5.1 | .0 | 5.1 | .6 | 5.1 | .7 | 5.1 | .0 |
| 109 | 10/06/77 | 6 | 4.9 | .8 | 4.9 | .5 | 4.9 | .5 | 4.9 | .5 | 4.9 | .8 |
| 110 | 10/17/77 | 6 | 4.6 | .0 | 4.6 | .9 | 4.6 | .0 | 4.6 | .0 | 4.6 | .0 |
| 111 | 10/11/77 | 6 | 4.5 | .6 | 4.5 | .6 | 4.5 | .6 | 4.5 | .3 | 4.5 | 1.5 |
| 112 | 10/18/77 | 6 | 4.0 | .8 | 4.0 | .6 | 4.0 | .7 | 4.0 | .7 | 4.0 | .0 |
| 113 | 10/12/77 | 6 | 3.9 | .9 | 3.9 | .0 | 3.9 | .0 | 3.9 | .6 | 3.9 | .0 |
| 114 | 10/24/77 | 6 | 3.0 | .9 | 3.0 | .6 | 3.0 | .5 | 3.0 | .4 | 3.0 | 1.1 |
| 115 | 10/25/77 | 6 | 2.7 | .0 | 2.7 | .0 | 2.7 | .0 | 2.7 | .0 | 2.7 | 1.0 |
| 116 | 10/07/77 | 6 | 2.6 | .4 | 2.6 | .4 | 2.6 | .4 | 2.6 | .5 | 2.6 | .7 |
| 117 | 10/26/77 | 6 | 2.5 | .0 | 2.5 | .3 | 2.5 | .4 | 2.5 | .3 | 2.5 | .7 |
| 118 | 10/31/77 | 6 | 2.4 | .0 | 2.4 | .4 | 2.4 | .3 | 2.4 | .3 | 2.4 | .9 |
| 119 | 11/02/77 | 6 | 2.0 | .0 | 2.0 | .4 | 2.0 | .3 | 2.0 | .3 | 2.0 | .9 |
| 120 | 11/01/77 | 6 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 |

| RECNO | DATE | SIT | AVC——→ | R.C.J | AVC——→ | R.C.U | AVC——→ | R.C.S | AVC——→ | R.C.P | AVC——→ | R.C.F |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 121 | 10/28/77 | 7 | 14.5 | .0 | 14.5 | 1.1 | 14.5 | 1.2 | 14.5 | 1.1 | 14.5 | 2.8 |
| 122 | 10/10/77 | 7 | 12.9 | 1.4 | 12.9 | 1.8 | 12.9 | 1.9 | 12.9 | .0 | 12.9 | 2.6 |
| 123 | 10/06/77 | 7 | 11.3 | 1.0 | 11.3 | 1.1 | 11.3 | 1.2 | 11.3 | 1.2 | 11.3 | 1.9 |
| 124 | 10/07/77 | 7 | 11.3 | 1.8 | 11.3 | 1.9 | 11.3 | 1.9 | 11.3 | 2.4 | 11.3 | 3.2 |
| 125 | 10/21/77 | 7 | 11.0 | 2.3 | 11.0 | 1.0 | 11.0 | 1.1 | 11.0 | .9 | 11.0 | .0 |
| 126 | 10/27/77 | 7 | 10.6 | .0 | 10.6 | .0 | 10.6 | 1.2 | 10.6 | 1.4 | 10.6 | .0 |
| 127 | 10/11/77 | 7 | 10.2 | 1.0 | 10.2 | 1.3 | 10.2 | 1.4 | 10.2 | .8 | 10.2 | 3.4 |
| 128 | 10/18/77 | 7 | 10.2 | 1.5 | 10.2 | 1.4 | 10.2 | 1.8 | 10.2 | 1.7 | 10.2 | .0 |
| 129 | 10/17/77 | 7 | 9.0 | .0 | 9.0 | 1.8 | 9.0 | .0 | 9.0 | .0 | 9.0 | .0 |
| 130 | 10/14/77 | 7 | 7.1 | .6 | 7.1 | 1.1 | 7.1 | 1.2 | 7.1 | .5 | 7.1 | .0 |
| 131 | 10/20/77 | 7 | 7.1 | 1.0 | 7.1 | .8 | 7.1 | .0 | 7.1 | .8 | 7.1 | 1.2 |
| 132 | 10/19/77 | 7 | 6.4 | .6 | 6.4 | 1.5 | 6.4 | 1.0 | 6.4 | .6 | 6.4 | .0 |
| 133 | 10/13/77 | 7 | 5.8 | .7 | 5.8 | 1.5 | 5.8 | 1.0 | 5.8 | .6 | 5.8 | .0 |
| 134 | 10/24/77 | 7 | 4.6 | 1.3 | 4.6 | .9 | 4.6 | .7 | 4.6 | .6 | 4.6 | 1.7 |
| 135 | 10/12/77 | 7 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 |
| 136 | 10/25/77 | 7 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 |
| 137 | 10/26/77 | 7 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 |
| 138 | 10/31/77 | 7 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 |
| 139 | 11/01/77 | 7 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .9 | .0 | .0 |
| 140 | 11/02/77 | 7 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 |
| 141 | 10/21/77 | 8 | 10.4 | 2.2 | 10.4 | 1.0 | 10.4 | 1.1 | 10.4 | .9 | 10.4 | .0 |
| 142 | 10/27/77 | 8 | 10.0 | .0 | 10.0 | .0 | 10.0 | 1.2 | 10.0 | 1.3 | 10.0 | .0 |
| 143 | 10/07/77 | 8 | 9.6 | 1.5 | 9.6 | 1.6 | 9.6 | 1.6 | 9.6 | 2.0 | 9.6 | 2.7 |
| 144 | 10/20/77 | 8 | 8.4 | 1.2 | 8.4 | .9 | 8.4 | .0 | 8.4 | .9 | 8.4 | 1.4 |
| 145 | 10/18/77 | 8 | 8.2 | 1.2 | 8.2 | 1.1 | 8.2 | 1.5 | 8.2 | 1.4 | 8.2 | .0 |
| 146 | 10/10/77 | 8 | 8.2 | .9 | 8.2 | 1.2 | 8.2 | 1.2 | 8.2 | .0 | 8.2 | 1.7 |
| 147 | 10/17/77 | 8 | 8.1 | .0 | 8.1 | 1.7 | 8.1 | .0 | 8.1 | .0 | 8.1 | .0 |
| 148 | 10/11/77 | 8 | 6.8 | .7 | 6.8 | .9 | 6.8 | .9 | 6.8 | .5 | 6.8 | 2.3 |
| 149 | 10/26/77 | 8 | 6.3 | .0 | 6.3 | .8 | 6.3 | .9 | 6.3 | .7 | 6.3 | 1.7 |
| 150 | 11/02/77 | 8 | 5.9 | .0 | 5.9 | 1.2 | 5.9 | 1.0 | 5.9 | .8 | 5.9 | 2.6 |
| 151 | 10/25/77 | 8 | 5.8 | .0 | 5.8 | .0 | 5.8 | .0 | 5.8 | .0 | 5.8 | 2.2 |
| 152 | 10/24/77 | 8 | 5.6 | 1.6 | 5.6 | 1.1 | 5.6 | .9 | 5.6 | .7 | 5.6 | 2.1 |
| 153 | 10/31/77 | 8 | 4.7 | .0 | 4.7 | .8 | 4.7 | .7 | 4.7 | .6 | 4.7 | 1.7 |
| 154 | 10/13/77 | 8 | 4.3 | .5 | 4.3 | 1.1 | 4.3 | .7 | 4.3 | .4 | 4.3 | .0 |
| 155 | 10/19/77 | 8 | 4.3 | .4 | 4.3 | 1.0 | 4.3 | .7 | 4.3 | .4 | 4.3 | .0 |
| 156 | 11/01/77 | 8 | 3.9 | .0 | 3.9 | 1.1 | 3.9 | .0 | 3.9 | .8 | 3.9 | 2.2 |
| 157 | 10/06/77 | 8 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 |
| 158 | 10/12/77 | 8 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 |
| 159 | 10/14/77 | 8 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 |
| 160 | 10/28/77 | 8 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 |
| 161 | 10/28/77 | 9 | 14.0 | .0 | 14.0 | 1.1 | 14.0 | 1.1 | 14.0 | 1.0 | 14.0 | 2.1 |
| 162 | 10/14/77 | 9 | 12.4 | 1.1 | 12.4 | 2.0 | 12.4 | 2.1 | 12.4 | .8 | 12.4 | .0 |
| 163 | 10/11/77 | 9 | 11.2 | 1.1 | 11.2 | 1.4 | 11.2 | 1.5 | 11.2 | .8 | 11.2 | 3.7 |
| 164 | 10/19/77 | 9 | 11.1 | 1.1 | 11.1 | 2.5 | 11.1 | 1.8 | 11.1 | 1.0 | 11.1 | .0 |
| 165 | 10/21/77 | 9 | 10.3 | 2.2 | 10.3 | .9 | 10.3 | 1.1 | 10.3 | .9 | 10.3 | .0 |
| 166 | 10/06/77 | 9 | 9.2 | 1.6 | 9.2 | .9 | 9.2 | 1.0 | 9.2 | 1.0 | 9.2 | 1.5 |
| 167 | 10/31/77 | 9 | 8.8 | .0 | 8.8 | 1.4 | 8.8 | 1.3 | 8.8 | 1.1 | 8.8 | 3.2 |
| 168 | 10/13/77 | 9 | 8.6 | 1.0 | 8.6 | 2.3 | 8.6 | 1.4 | 8.6 | .9 | 8.6 | .0 |
| 169 | 10/26/77 | 9 | 8.6 | .0 | 8.6 | 1.1 | 8.6 | 1.2 | 8.6 | .9 | 8.6 | 2.4 |
| 170 | 10/12/77 | 9 | 8.4 | 8.0 | 8.4 | .0 | 8.4 | .0 | 8.4 | 1.0 | 8.4 | .0 |
| 171 | 10/20/77 | 9 | 8.2 | 1.1 | 8.2 | .9 | 8.2 | .0 | 8.2 | .9 | 8.2 | 1.4 |
| 172 | 10/27/77 | 9 | 8.2 | .0 | 8.2 | .0 | 8.2 | 1.0 | 8.2 | 1.1 | 8.2 | .0 |
| 173 | 10/25/77 | 9 | 8.1 | .0 | 8.1 | .0 | 8.1 | .0 | 8.1 | .0 | 8.1 | 3.1 |
| 174 | 10/24/77 | 9 | 7.8 | 8.3 | 7.8 | 1.5 | 7.8 | 1.2 | 7.8 | 1.0 | 7.8 | 3.0 |
| 175 | 11/02/77 | 9 | 7.5 | .0 | 7.5 | 1.5 | 7.5 | 1.3 | 7.5 | 1.0 | 7.5 | 3.3 |
| 176 | 10/17/77 | 9 | 7.4 | .0 | 7.4 | 1.5 | 7.4 | .0 | 7.4 | .0 | 7.4 | .0 |
| 177 | 10/18/77 | 9 | 5.6 | .0 | 5.6 | .8 | 5.6 | 1.0 | 5.6 | .9 | 5.6 | .0 |
| 178 | 11/01/77 | 9 | 4.9 | .0 | 4.9 | 1.4 | 4.9 | .0 | 4.9 | 1.0 | 4.9 | 2.8 |
| 179 | 10/07/77 | 9 | 4.5 | .7 | 4.5 | .8 | 4.5 | .8 | 4.5 | .9 | 4.5 | 1.3 |
| 180 | 10/10/77 | 9 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 |

| RECNO | DATE | SIT | AVC —↓ | R.C.J | AVC —↓ | R.C.U | AVC —↓ | R.C.W | AVC —↓ | R.C.P | AVC —↓ | R.C.F |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 181 | 10/28/77 | 10 | 15.0 | .0 | 15.0 | 1.2 | 15.0 | 1.2 | 15.0 | 1.1 | 15.0 | 2.3 |
| 182 | 10/21/77 | 10 | 15.0 | 3.1 | 15.0 | 1.4 | 15.0 | 1.5 | 15.0 | 1.2 | 15.0 | .0 |
| 183 | 10/12/77 | 10 | 12.4 | 3.0 | 12.4 | .0 | 12.4 | .0 | 12.4 | 1.5 | 12.4 | .0 |
| 184 | 10/06/77 | 10 | 11.4 | 1.9 | 11.4 | 1.1 | 11.4 | 1.2 | 11.4 | 1.2 | 11.4 | 1.0 |
| 185 | 10/27/77 | 10 | 11.0 | .0 | 11.0 | .0 | 11.0 | 1.3 | 11.0 | 1.4 | 11.0 | .0 |
| 186 | 10/18/77 | 10 | 9.4 | 1.3 | 9.4 | 1.3 | 9.4 | 1.7 | 9.4 | 1.6 | 9.4 | .0 |
| 187 | 10/10/77 | 10 | 8.7 | .9 | 8.7 | 1.2 | 8.7 | 1.3 | 8.7 | .0 | 8.7 | 1.8 |
| 188 | 10/20/77 | 10 | 8.7 | 1.2 | 8.7 | 1.0 | 8.7 | .0 | 8.7 | 1.0 | 8.7 | 1.5 |
| 189 | 10/26/77 | 10 | 8.6 | .0 | 8.6 | 1.1 | 8.6 | 1.2 | 8.6 | .9 | 8.6 | 2.4 |
| 190 | 11/02/77 | 10 | 8.1 | .0 | 8.1 | 1.7 | 8.1 | 1.4 | 8.1 | 1.1 | 8.1 | 3.6 |
| 191 | 10/24/77 | 10 | 7.8 | 2.3 | 7.8 | 1.5 | 7.8 | 1.2 | 7.8 | 1.0 | 7.8 | 3.0 |
| 192 | 10/11/77 | 10 | 6.3 | .6 | 6.3 | .8 | 6.3 | .9 | 6.3 | .5 | 6.3 | 2.1 |
| 193 | 10/17/77 | 10 | 5.6 | .0 | 5.6 | 1.1 | 5.6 | .0 | 5.6 | .0 | 5.6 | .0 |
| 194 | 10/19/77 | 10 | 5.5 | .5 | 5.5 | 1.3 | 5.5 | .9 | 5.5 | .5 | 5.5 | .0 |
| 195 | 10/14/77 | 10 | 5.3 | .5 | 5.3 | .8 | 5.3 | .9 | 5.3 | .3 | 5.3 | .0 |
| 196 | 10/13/77 | 10 | 4.5 | .5 | 4.5 | 1.2 | 4.5 | .8 | 4.5 | .5 | 4.5 | .0 |
| 197 | 10/25/77 | 10 | 4.3 | .0 | 4.3 | .0 | 4.3 | .0 | 4.3 | .0 | 4.3 | 1.6 |
| 198 | 11/01/77 | 10 | 4.1 | .0 | 4.1 | 1.2 | 4.1 | .0 | 4.1 | .0 | 4.1 | 2.3 |
| 199 | 10/07/77 | 10 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 |
| 200 | 10/31/77 | 10 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 |
| 201 | 10/10/77 | 11 | 11.4 | 1.2 | 11.4 | 1.6 | 11.4 | 1.7 | 11.4 | .0 | 11.4 | 2.3 |
| 202 | 10/28/77 | 11 | 10.8 | .0 | 10.8 | .8 | 10.8 | .9 | 10.8 | .8 | 10.8 | 1.7 |
| 203 | 10/18/77 | 11 | 9.2 | 1.3 | 9.2 | 1.3 | 9.2 | 1.6 | 9.2 | 1.5 | 9.2 | .0 |
| 204 | 10/21/77 | 11 | 9.1 | 1.0 | 9.1 | .8 | 9.1 | .9 | 9.1 | .8 | 9.1 | .0 |
| 205 | 10/27/77 | 11 | 9.1 | .0 | 9.1 | .0 | 9.1 | 1.1 | 9.1 | 1.2 | 9.1 | .0 |
| 206 | 10/06/77 | 11 | 8.5 | 1.4 | 8.5 | .8 | 8.5 | .9 | 8.5 | .9 | 8.5 | 1.4 |
| 207 | 10/26/77 | 11 | 8.3 | .0 | 8.3 | 1.1 | 8.3 | 1.2 | 8.3 | .9 | 8.3 | 2.3 |
| 208 | 10/20/77 | 11 | 7.3 | 1.0 | 7.3 | .8 | 7.3 | .0 | 7.3 | .8 | 7.3 | 1.2 |
| 209 | 10/12/77 | 11 | 7.0 | 1.7 | 7.0 | .0 | 7.0 | .0 | 7.0 | .8 | 7.0 | .0 |
| 210 | 10/31/77 | 11 | 6.7 | .0 | 6.7 | 1.1 | 6.7 | 1.0 | 6.7 | .8 | 6.7 | 2.4 |
| 211 | 10/11/77 | 11 | 6.1 | .6 | 6.1 | .8 | 6.1 | .8 | 6.1 | .5 | 6.1 | 2.0 |
| 212 | 10/17/77 | 11 | 5.9 | .0 | 5.9 | 1.2 | 5.9 | .0 | 5.9 | .0 | 5.9 | .0 |
| 213 | 10/19/77 | 11 | 5.7 | .6 | 5.7 | 1.3 | 5.7 | .9 | 5.7 | .5 | 5.7 | .0 |
| 214 | 10/24/77 | 11 | 5.4 | 1.6 | 5.4 | 1.0 | 5.4 | .8 | 5.4 | .7 | 5.4 | 2.0 |
| 215 | 10/14/77 | 11 | 4.7 | .4 | 4.7 | .8 | 4.7 | .8 | 4.7 | .3 | 4.7 | .0 |
| 216 | 11/02/77 | 11 | 4.5 | .0 | 4.5 | .9 | 4.5 | .8 | 4.5 | .6 | 4.5 | 2.0 |
| 217 | 10/25/77 | 11 | 4.4 | .0 | 4.4 | .0 | 4.4 | .0 | 4.4 | .0 | 4.4 | 1.7 |
| 218 | 10/13/77 | 11 | 3.1 | .3 | 3.1 | .8 | 3.1 | .5 | 3.1 | .3 | 3.1 | .0 |
| 219 | 11/01/77 | 11 | 3.0 | .0 | 3.0 | .9 | 3.0 | .0 | 3.0 | .6 | 3.0 | 1.7 |
| 220 | 10/07/77 | 11 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 |
| 221 | 10/28/77 | 12 | 10.3 | .0 | 10.3 | .8 | 10.3 | .8 | 10.3 | .8 | 10.3 | 1.6 |
| 222 | 10/06/77 | 12 | 7.0 | 1.2 | 7.0 | .7 | 7.0 | .7 | 7.0 | .7 | 7.0 | 1.2 |
| 223 | 10/20/77 | 12 | 6.8 | .9 | 6.8 | .8 | 6.8 | .0 | 6.8 | .8 | 6.8 | 1.2 |
| 224 | 10/17/77 | 12 | 6.6 | .0 | 6.6 | 1.3 | 6.6 | .0 | 6.6 | .0 | 6.6 | .0 |
| 225 | 10/18/77 | 12 | 6.1 | .9 | 6.1 | .8 | 6.1 | 1.1 | 6.1 | 1.0 | 6.1 | .0 |
| 226 | 10/21/77 | 12 | 6.0 | 1.3 | 6.0 | .5 | 6.0 | .6 | 6.0 | .5 | 6.0 | .0 |
| 227 | 10/10/77 | 12 | 5.2 | .6 | 5.2 | .7 | 5.2 | .8 | 5.2 | .0 | 5.2 | 1.1 |
| 228 | 10/12/77 | 12 | 5.1 | 1.2 | 5.1 | .0 | 5.1 | .0 | 5.1 | .6 | 5.1 | .0 |
| 229 | 10/26/77 | 12 | 5.0 | .0 | 5.0 | .6 | 5.0 | .7 | 5.0 | .5 | 5.0 | 1.4 |
| 230 | 10/24/77 | 12 | 4.9 | 1.5 | 4.9 | 1.0 | 4.9 | .8 | 4.9 | .6 | 4.9 | 1.9 |
| 231 | 10/11/77 | 12 | 4.6 | .6 | 4.6 | .6 | 4.6 | .6 | 4.6 | .3 | 4.6 | 1.5 |
| 232 | 10/13/77 | 12 | 4.0 | .4 | 4.0 | 1.1 | 4.0 | .7 | 4.0 | .4 | 4.0 | .0 |
| 233 | 10/14/77 | 12 | 3.7 | .3 | 3.7 | .6 | 3.7 | .6 | 3.7 | .2 | 3.7 | .0 |
| 234 | 11/02/77 | 12 | 1.9 | .0 | 1.9 | .4 | 1.9 | .3 | 1.9 | .3 | 1.9 | .2 |
| 235 | 11/01/77 | 12 | 1.0 | .0 | 1.0 | .3 | 1.0 | .0 | 1.0 | .2 | 1.0 | .5 |
| 236 | 10/07/77 | 12 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 |
| 237 | 10/19/77 | 12 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 |
| 238 | 10/25/77 | 12 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 |
| 239 | 10/27/77 | 12 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 |
| 240 | 10/31/77 | 12 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 |

| RECNO | DATE | SIT | AVC → | R.C.J | AVC → | R.C.U | AVC → | R.C.S | AVC → | R.C.P | AVC → | R.C.F |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 241 | 10/14/77 | 13 | 7.0 | .6 | 7.0 | 1.1 | 7.0 | 1.8 | 7.0 | .4 | 7.0 | .0 |
| 242 | 10/18/77 | 13 | 6.4 | .9 | 6.4 | .9 | 6.4 | 1.1 | 6.4 | 1.1 | 6.4 | .0 |
| 243 | 10/28/77 | 13 | 6.2 | .0 | 6.2 | .5 | 6.2 | .5 | 6.2 | .6 | 6.2 | 1.0 |
| 244 | 10/19/77 | 13 | 5.6 | .5 | 5.6 | 1.3 | 5.6 | .9 | 5.6 | .5 | 5.6 | .0 |
| 245 | 10/17/77 | 13 | 5.1 | .0 | 5.1 | 1.0 | 5.1 | .0 | 5.1 | .0 | 5.1 | .0 |
| 246 | 10/27/77 | 13 | 5.1 | .0 | 5.1 | .0 | 5.1 | .6 | 5.1 | .7 | 5.1 | .0 |
| 247 | 10/20/77 | 13 | 4.7 | .6 | 4.7 | .5 | 4.7 | .0 | 4.7 | .5 | 4.7 | .0 |
| 248 | 10/21/77 | 13 | 4.5 | .9 | 4.5 | .4 | 4.5 | .5 | 4.5 | .4 | 4.5 | .0 |
| 249 | 10/12/77 | 13 | 4.2 | 1.0 | 4.2 | .0 | 4.2 | .0 | 4.2 | .5 | 4.2 | .0 |
| 250 | 10/24/77 | 13 | 2.6 | .8 | 2.6 | .5 | 2.6 | .4 | 2.6 | .3 | 2.6 | 1.0 |
| 251 | 10/26/77 | 13 | 2.5 | .0 | 2.5 | .3 | 2.5 | .4 | 2.5 | .3 | 2.5 | .7 |
| 252 | 10/31/77 | 13 | 2.2 | .0 | 2.2 | .4 | 2.2 | .3 | 2.2 | .3 | 2.2 | .8 |
| 253 | 11/02/77 | 13 | 1.9 | .0 | 1.9 | .4 | 1.9 | .3 | 1.9 | .3 | 1.9 | .8 |
| 254 | 11/01/77 | 13 | 1.0 | .0 | 1.0 | .3 | 1.0 | .0 | 1.0 | .2 | 1.0 | .5 |
| 255 | 10/06/77 | 13 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 |
| 256 | 10/07/77 | 13 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 |
| 257 | 10/10/77 | 13 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 |
| 258 | 10/11/77 | 13 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 |
| 259 | 10/13/77 | 13 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 |
| 260 | 10/25/77 | 13 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 |
| 261 | 10/28/77 | 14 | 7.3 | .0 | 7.3 | .6 | 7.3 | .6 | 7.3 | .5 | 7.3 | 1.1 |
| 262 | 10/14/77 | 14 | 5.7 | .5 | 5.7 | .9 | 5.7 | 1.0 | 5.7 | .4 | 5.7 | .0 |
| 263 | 10/11/77 | 14 | 5.2 | .5 | 5.2 | .7 | 5.2 | .7 | 5.2 | .4 | 5.2 | 1.7 |
| 264 | 10/21/77 | 14 | 4.7 | 1.0 | 4.7 | .4 | 4.7 | .5 | 4.7 | .4 | 4.7 | .0 |
| 265 | 10/06/77 | 14 | 4.5 | .8 | 4.5 | .4 | 4.6 | .5 | 4.5 | .5 | 4.5 | .8 |
| 266 | 10/07/77 | 14 | 4.5 | .7 | 4.5 | .8 | 4.5 | .8 | 4.5 | .9 | 4.5 | 1.3 |
| 267 | 10/10/77 | 14 | 4.5 | .5 | 4.5 | .6 | 4.5 | .7 | 4.5 | .0 | 4.5 | .9 |
| 268 | 10/12/77 | 14 | 4.5 | 1.1 | 4.5 | .0 | 4.5 | .0 | 4.5 | .5 | 4.5 | .0 |
| 269 | 10/27/77 | 14 | 4.4 | .0 | 4.4 | .0 | 4.4 | .5 | 4.4 | .6 | 4.4 | .0 |
| 270 | 10/20/77 | 14 | 4.4 | .6 | 4.4 | .5 | 4.4 | .0 | 4.4 | .5 | 4.4 | .7 |
| 271 | 10/18/77 | 14 | 3.8 | .6 | 3.8 | .5 | 3.8 | .7 | 3.8 | .6 | 3.8 | .0 |
| 272 | 10/17/77 | 14 | 3.5 | .0 | 3.5 | .7 | 3.5 | .0 | 3.5 | .0 | 3.5 | .0 |
| 273 | 10/19/77 | 14 | 3.5 | .3 | 3.5 | .8 | 3.5 | .6 | 3.5 | .3 | 3.5 | .0 |
| 274 | 10/24/77 | 14 | 3.2 | 1.0 | 3.2 | .6 | 3.2 | .5 | 3.2 | .4 | 3.2 | 1.2 |
| 275 | 10/31/77 | 14 | 3.0 | .0 | 3.0 | .5 | 3.0 | .4 | 3.0 | .4 | 3.0 | 1.1 |
| 276 | 10/25/77 | 14 | 2.7 | .0 | 2.7 | .0 | 2.7 | .0 | 2.7 | .0 | 2.7 | 1.0 |
| 277 | 10/26/77 | 14 | 2.5 | .0 | 2.5 | .3 | 2.5 | .4 | 2.5 | .3 | 2.5 | .7 |
| 278 | 11/02/77 | 14 | 2.5 | .0 | 2.5 | .5 | 2.5 | .4 | 2.5 | .3 | 2.5 | 1.1 |
| 279 | 11/01/77 | 14 | 1.4 | .0 | 1.4 | .4 | 1.4 | .0 | 1.4 | .3 | 1.4 | .8 |
| 280 | 10/13/77 | 14 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 |
| 281 | 10/28/77 | 15 | 10.3 | .0 | 10.3 | .8 | 10.3 | .8 | 10.3 | .9 | 10.3 | 1.6 |
| 282 | 10/17/77 | 15 | 9.0 | .0 | 9.0 | 1.8 | 9.0 | .0 | 9.0 | .0 | 9.0 | .0 |
| 283 | 10/11/77 | 15 | 8.3 | .8 | 8.3 | 1.1 | 8.3 | 1.1 | 8.3 | .6 | 8.3 | 2.7 |
| 284 | 10/27/77 | 15 | 7.6 | .0 | 7.6 | .0 | 7.6 | .9 | 7.6 | 1.0 | 7.6 | .0 |
| 285 | 10/10/77 | 15 | 6.8 | .7 | 6.8 | 1.0 | 6.8 | 1.0 | 6.8 | .0 | 6.8 | 1.4 |
| 286 | 10/19/77 | 15 | 6.6 | .6 | 6.6 | 1.5 | 6.6 | 1.1 | 6.6 | .6 | 6.6 | .0 |
| 287 | 10/14/77 | 15 | 6.5 | .6 | 6.5 | 1.0 | 6.5 | 1.1 | 6.5 | .4 | 6.5 | .0 |
| 288 | 10/21/77 | 15 | 6.1 | 1.3 | 6.1 | .6 | 6.1 | .6 | 6.1 | .5 | 6.1 | .0 |
| 289 | 10/18/77 | 15 | 5.1 | .7 | 5.1 | .7 | 5.1 | .9 | 5.1 | .8 | 5.1 | .0 |
| 290 | 10/06/77 | 15 | 5.0 | .8 | 5.0 | .5 | 5.0 | .5 | 5.0 | .5 | 5.0 | .8 |
| 291 | 10/12/77 | 15 | 5.0 | 1.2 | 5.0 | .0 | 5.0 | .0 | 5.0 | .6 | 5.0 | .0 |
| 292 | 10/13/77 | 15 | 4.6 | .5 | 4.6 | 1.2 | 4.6 | .8 | 4.6 | .5 | 4.6 | .0 |
| 293 | 10/25/77 | 15 | 3.7 | .0 | 3.7 | .0 | 3.7 | .0 | 3.7 | .0 | 3.7 | 1.4 |
| 294 | 10/07/77 | 15 | 3.5 | .6 | 3.5 | .6 | 3.5 | .6 | 3.5 | .7 | 3.5 | 1.0 |
| 295 | 10/31/77 | 15 | 3.2 | .0 | 3.2 | .5 | 3.2 | .6 | 3.2 | .4 | 3.2 | 1.2 |
| 296 | 10/24/77 | 15 | 3.1 | .0 | 3.1 | .6 | 3.1 | .6 | 3.1 | .4 | 3.1 | 1.2 |
| 297 | 11/02/77 | 15 | 2.9 | .0 | 2.9 | .6 | 2.9 | .5 | 2.9 | .4 | 2.9 | 1.3 |
| 298 | 11/01/77 | 15 | 1.4 | .0 | 1.4 | .4 | 1.4 | .0 | 1.4 | .3 | 1.4 | .8 |
| 299 | 10/20/77 | 15 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 |
| 300 | 10/26/77 | 15 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 |

| RECNO | DATE | SIT | AVC → | R.C.J | AVC → | R.C.U | AVC → | R.C.S | AVC → | R.C.P | AVC → | R.C.F |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 301 | 10/08/77 | 16 | 10.0 | 1.7 | 10.0 | .9 | 10.0 | 1.1 | 10.0 | 1.0 | 10.0 | 1.7 |
| 302 | 10/18/77 | 16 | 9.7 | 1.4 | 9.7 | 1.3 | 9.7 | 1.7 | 9.7 | 1.6 | 9.7 | .0 |
| 303 | 10/27/77 | 16 | 9.1 | .0 | 9.1 | .0 | 9.1 | 1.1 | 9.1 | 1.2 | 9.1 | .0 |
| 304 | 10/07/77 | 16 | 9.0 | 1.4 | 9.0 | 1.5 | 9.0 | 1.5 | 9.0 | 1.9 | 9.0 | 2.6 |
| 305 | 10/20/77 | 16 | 8.6 | 1.8 | 8.6 | 1.0 | 8.6 | .0 | 8.6 | 1.0 | 8.6 | 1.5 |
| 306 | 10/21/77 | 16 | 8.6 | 1.0 | 8.6 | .8 | 8.6 | .9 | 8.6 | .7 | 8.6 | .0 |
| 307 | 10/11/77 | 16 | 8.0 | .0 | 8.0 | 1.0 | 8.0 | 1.1 | 8.0 | .6 | 8.0 | 2.7 |
| 308 | 10/12/77 | 16 | 7.1 | 1.7 | 7.1 | .0 | 7.1 | .0 | 7.1 | .8 | 7.1 | .0 |
| 309 | 10/17/77 | 16 | 6.9 | .0 | 6.9 | 1.4 | 6.9 | .0 | 6.9 | .0 | 6.9 | .0 |
| 310 | 10/19/77 | 16 | 6.0 | .6 | 6.0 | 1.4 | 6.0 | 1.0 | 6.0 | .5 | 6.0 | .0 |
| 311 | 10/25/77 | 16 | 6.0 | .0 | 6.0 | .0 | 6.0 | .0 | 6.0 | .0 | 6.0 | 2.3 |
| 312 | 10/26/77 | 16 | 5.9 | .0 | 5.9 | .7 | 5.9 | .8 | 5.9 | .6 | 5.9 | 1.6 |
| 313 | 10/14/77 | 16 | 5.5 | .5 | 5.5 | .9 | 5.5 | .9 | 5.5 | .3 | 5.5 | .0 |
| 314 | 10/24/77 | 16 | 5.3 | 1.6 | 5.3 | 1.0 | 5.3 | .8 | 5.3 | .7 | 5.3 | 2.0 |
| 315 | 10/31/77 | 16 | 5.2 | .0 | 5.2 | .8 | 5.2 | .7 | 5.2 | .6 | 5.2 | 1.9 |
| 316 | 11/02/77 | 16 | 5.1 | .0 | 5.1 | 1.0 | 5.1 | .9 | 5.1 | .7 | 5.1 | 2.3 |
| 317 | 10/13/77 | 16 | 4.2 | .5 | 4.2 | 1.1 | 4.2 | .7 | 4.2 | .4 | 4.2 | .0 |
| 318 | 11/01/77 | 16 | 2.0 | .0 | 2.0 | .6 | 2.0 | .0 | 2.0 | .4 | 2.0 | 1.2 |
| 319 | 10/10/77 | 16 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 |
| 320 | 10/28/77 | 16 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 |
| 321 | 10/27/77 | 17 | 12.0 | .0 | 12.0 | .0 | 12.0 | 1.4 | 12.0 | 1.6 | 12.0 | .0 |
| 322 | 10/28/77 | 17 | 11.6 | .0 | 11.6 | .9 | 11.6 | .9 | 11.6 | .8 | 11.6 | 1.8 |
| 323 | 10/21/77 | 17 | 10.6 | 2.2 | 10.6 | 1.0 | 10.6 | 1.1 | 10.6 | .9 | 10.6 | .0 |
| 324 | 10/14/77 | 17 | 10.5 | .9 | 10.5 | 1.7 | 10.5 | 1.8 | 10.5 | .7 | 10.5 | .0 |
| 325 | 10/11/77 | 17 | 9.6 | 1.0 | 9.6 | 1.2 | 9.6 | 1.3 | 9.6 | .7 | 9.6 | 3.2 |
| 326 | 10/10/77 | 17 | 9.3 | .9 | 9.3 | 2.1 | 9.3 | 1.5 | 9.3 | .8 | 9.3 | .0 |
| 327 | 10/10/77 | 17 | 9.3 | 1.0 | 9.3 | 1.3 | 9.3 | 1.4 | 9.3 | .0 | 9.3 | 1.9 |
| 328 | 10/18/77 | 17 | 9.2 | 1.3 | 9.2 | 1.3 | 9.2 | 1.6 | 9.2 | 1.5 | 9.2 | .0 |
| 329 | 10/20/77 | 17 | 9.2 | 1.3 | 9.2 | 1.0 | 9.2 | .0 | 9.2 | 1.0 | 9.2 | 1.6 |
| 330 | 10/12/77 | 17 | 8.7 | 2.1 | 8.7 | .0 | 8.7 | .0 | 8.7 | 1.0 | 8.7 | .0 |
| 331 | 10/06/77 | 17 | 8.2 | 1.4 | 8.2 | .8 | 8.2 | .9 | 8.2 | .8 | 8.2 | 1.4 |
| 332 | 10/07/77 | 17 | 7.9 | 1.2 | 7.9 | 1.3 | 7.9 | 1.3 | 7.9 | 1.7 | 7.9 | 2.3 |
| 333 | 10/13/77 | 17 | 7.7 | .9 | 7.7 | 2.1 | 7.7 | 1.3 | 7.7 | .8 | 7.7 | .0 |
| 334 | 10/25/77 | 17 | 6.0 | .0 | 6.0 | .0 | 6.0 | .0 | 6.0 | .0 | 6.0 | 2.3 |
| 335 | 10/31/77 | 17 | 5.5 | .0 | 5.5 | .9 | 5.5 | .8 | 5.5 | .7 | 5.5 | 2.0 |
| 336 | 10/24/77 | 17 | 5.4 | 1.6 | 5.4 | 1.0 | 5.4 | .8 | 5.4 | .7 | 5.4 | 2.0 |
| 337 | 10/17/77 | 17 | 5.3 | .0 | 5.3 | 1.1 | 5.3 | .0 | 5.3 | .0 | 5.3 | .0 |
| 338 | 11/01/77 | 17 | 3.8 | .0 | 3.8 | 1.1 | 3.8 | .0 | 3.8 | .8 | 3.8 | 2.1 |
| 339 | 11/02/77 | 17 | 3.3 | .0 | 3.3 | .7 | 3.3 | .6 | 3.3 | .5 | 3.3 | 1.5 |
| 340 | 10/26/77 | 17 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 |
| 341 | 10/28/77 | 18 | 7.4 | .0 | 7.4 | .6 | 7.4 | .6 | 7.4 | .5 | 7.4 | 1.1 |
| 342 | 10/19/77 | 18 | 5.8 | .6 | 5.8 | 1.3 | 5.8 | .9 | 5.8 | .5 | 5.8 | .0 |
| 343 | 10/13/77 | 18 | 5.5 | .6 | 5.5 | 1.5 | 5.5 | .9 | 5.5 | .6 | 5.5 | .0 |
| 344 | 10/27/77 | 18 | 5.5 | .0 | 5.5 | .0 | 5.5 | .6 | 5.5 | .7 | 5.5 | .0 |
| 345 | 10/14/77 | 18 | 5.4 | .6 | 5.4 | .9 | 5.4 | .9 | 5.4 | .3 | 5.4 | .0 |
| 346 | 10/11/77 | 18 | 5.2 | .5 | 5.2 | .7 | 5.2 | .7 | 5.2 | .4 | 5.2 | 1.7 |
| 347 | 10/06/77 | 18 | 4.9 | .8 | 4.9 | .5 | 4.9 | .6 | 4.9 | .5 | 4.9 | .8 |
| 348 | 10/10/77 | 18 | 4.8 | .6 | 4.8 | .7 | 4.8 | .7 | 4.8 | .0 | 4.8 | 1.0 |
| 349 | 10/20/77 | 18 | 4.7 | .6 | 4.7 | .5 | 4.7 | .0 | 4.7 | .5 | 4.7 | .8 |
| 350 | 10/18/77 | 18 | 4.2 | .6 | 4.2 | .6 | 4.2 | .7 | 4.2 | .7 | 4.2 | .0 |
| 351 | 10/07/77 | 18 | 3.9 | .6 | 3.9 | .7 | 3.9 | .6 | 3.9 | .8 | 3.9 | 1.1 |
| 352 | 10/12/77 | 18 | 3.7 | .9 | 3.7 | .0 | 3.7 | .0 | 3.7 | .4 | 3.7 | .0 |
| 353 | 10/31/77 | 18 | 3.3 | .0 | 3.3 | .6 | 3.3 | .5 | 3.3 | .4 | 3.3 | 1.2 |
| 354 | 10/24/77 | 18 | 3.2 | .0 | 3.2 | .6 | 3.2 | .5 | 3.2 | .4 | 3.2 | 1.2 |
| 355 | 10/26/77 | 18 | 2.7 | .0 | 2.7 | .3 | 2.7 | .4 | 2.7 | .3 | 2.7 | .7 |
| 356 | 10/25/77 | 18 | 2.0 | .0 | 2.0 | .0 | 2.0 | .0 | 2.0 | .0 | 2.0 | .8 |
| 357 | 11/02/77 | 18 | 1.8 | .0 | 1.8 | .4 | 1.8 | .3 | 1.8 | .3 | 1.8 | .8 |
| 358 | 11/01/77 | 18 | 1.0 | .0 | 1.0 | .3 | 1.0 | .0 | 1.0 | .2 | 1.0 | .5 |
| 359 | 10/17/77 | 18 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 |
| 360 | 10/21/77 | 18 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 |

# APPENDIX C

| RECNO | DATE | SIT | AUC | R.C.J | AUC | R.C.U | AUC | R.C.S | AUC | R.C.P | AUC | R.C.F |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 361 | 10/25/77 | 19 | 13.9 | .0 | 13.9 | 1.1 | 13.9 | 1.1 | 13.9 | 1.0 | 13.9 | 8.1 |
| 362 | 10/12/77 | 19 | 13.5 | 3.3 | 13.5 | .0 | 13.5 | .0 | 13.5 | 1.6 | 13.5 | .0 |
| 363 | 10/06/77 | 19 | 12.9 | 2.1 | 12.9 | 1.2 | 12.9 | 1.4 | 12.9 | 1.3 | 12.9 | 8.1 |
| 364 | 10/21/77 | 19 | 12.9 | 2.7 | 12.9 | 1.8 | 12.9 | 1.3 | 12.9 | 1.1 | 12.9 | .0 |
| 365 | 10/14/77 | 19 | 12.8 | 1.1 | 12.8 | 2.0 | 12.8 | 2.2 | 12.8 | .8 | 12.8 | .0 |
| 366 | 10/27/77 | 19 | 12.2 | .0 | 12.2 | .0 | 12.2 | 1.4 | 12.2 | 1.6 | 12.2 | .0 |
| 367 | 10/07/77 | 19 | 11.5 | 1.8 | 11.5 | 2.0 | 11.5 | 1.9 | 11.5 | 2.4 | 11.5 | 3.3 |
| 368 | 10/19/77 | 19 | 11.5 | 1.1 | 11.5 | 2.6 | 11.5 | 1.9 | 11.5 | 1.0 | 11.5 | .0 |
| 369 | 10/20/77 | 19 | 11.3 | 1.6 | 11.3 | 1.3 | 11.3 | .0 | 11.3 | 1.3 | 11.3 | 1.9 |
| 370 | 10/10/77 | 19 | 10.8 | 1.2 | 10.8 | 1.5 | 10.8 | 1.6 | 10.8 | .0 | 10.8 | 2.2 |
| 371 | 10/11/77 | 19 | 10.4 | 1.0 | 10.4 | 1.3 | 10.4 | 1.4 | 10.4 | .8 | 10.4 | 3.6 |
| 372 | 10/13/77 | 19 | 10.2 | 1.1 | 10.2 | 2.7 | 10.2 | 1.7 | 10.2 | 1.0 | 10.2 | .0 |
| 373 | 10/26/77 | 19 | 9.5 | .0 | 9.5 | 1.2 | 9.5 | 1.4 | 9.5 | 1.0 | 9.5 | 2.6 |
| 374 | 10/18/77 | 19 | 9.4 | 1.3 | 9.4 | 1.3 | 9.4 | 1.7 | 9.4 | 1.6 | 9.4 | .0 |
| 375 | 10/31/77 | 19 | 9.3 | .0 | 9.3 | 1.5 | 9.3 | 1.4 | 9.3 | 1.1 | 9.3 | 3.4 |
| 376 | 10/17/77 | 19 | 9.1 | .0 | 9.1 | 1.9 | 9.1 | .0 | 9.1 | .0 | 9.1 | .0 |
| 377 | 10/25/77 | 19 | 8.7 | .0 | 8.7 | .0 | 8.7 | .0 | 8.7 | .0 | 8.7 | 3.3 |
| 378 | 11/02/77 | 19 | 8.0 | .0 | 8.0 | 1.6 | 8.0 | 1.4 | 8.0 | 1.1 | 8.0 | 3.5 |
| 379 | 10/24/77 | 19 | 7.8 | 2.3 | 7.8 | 1.5 | 7.8 | 1.2 | 7.8 | 1.0 | 7.8 | 3.0 |
| 380 | 11/01/77 | 19 | 5.2 | .0 | 5.2 | 1.5 | 5.2 | .0 | 5.2 | 1.1 | 5.2 | 3.0 |
| 381 | 10/28/77 | 20 | 4.4 | .0 | 4.4 | .3 | 4.4 | .4 | 4.4 | .3 | 4.4 | .7 |
| 382 | 10/20/77 | 20 | 4.1 | .6 | 4.1 | .5 | 4.1 | .0 | 4.1 | .5 | 4.1 | .7 |
| 383 | 10/14/77 | 20 | 4.0 | .4 | 4.0 | .6 | 4.0 | .7 | 4.0 | .3 | 4.0 | .0 |
| 384 | 10/06/77 | 20 | 4.0 | .7 | 4.0 | .4 | 4.0 | .4 | 4.0 | .4 | 4.0 | .7 |
| 385 | 10/12/77 | 20 | 3.9 | .9 | 3.9 | .0 | 3.9 | .0 | 3.9 | .5 | 3.9 | .0 |
| 386 | 10/18/77 | 20 | 3.7 | .5 | 3.7 | .5 | 3.7 | .7 | 3.7 | .6 | 3.7 | .0 |
| 387 | 10/10/77 | 20 | 3.7 | .4 | 3.7 | .5 | 3.7 | .6 | 3.7 | .0 | 3.7 | .8 |
| 388 | 10/19/77 | 20 | 3.5 | .3 | 3.5 | .8 | 3.5 | .6 | 3.5 | .3 | 3.5 | .0 |
| 389 | 10/21/77 | 20 | 3.5 | .7 | 3.5 | .3 | 3.5 | .4 | 3.5 | .3 | 3.5 | .0 |
| 390 | 10/17/77 | 20 | 3.5 | .0 | 3.5 | .7 | 3.5 | .0 | 3.5 | .0 | 3.5 | .0 |
| 391 | 10/27/77 | 20 | 3.5 | .0 | 3.5 | .0 | 3.5 | .4 | 3.5 | .5 | 3.5 | .0 |
| 392 | 10/07/77 | 20 | 2.6 | .4 | 2.6 | .4 | 2.6 | .4 | 2.6 | .5 | 2.6 | .7 |
| 393 | 10/13/77 | 20 | 2.4 | .3 | 2.4 | .6 | 2.4 | .4 | 2.4 | .2 | 2.4 | .0 |
| 394 | 11/02/77 | 20 | 2.2 | .0 | 2.2 | .5 | 2.2 | .4 | 2.2 | .3 | 2.2 | 1.0 |
| 395 | 10/24/77 | 20 | 2.2 | .7 | 2.2 | .4 | 2.2 | .3 | 2.2 | .3 | 2.2 | .8 |
| 396 | 10/31/77 | 20 | 2.0 | .0 | 2.0 | .3 | 2.0 | .3 | 2.0 | .2 | 2.0 | .7 |
| 397 | 11/01/77 | 20 | 2.0 | .0 | 2.0 | .6 | 2.0 | .0 | 2.0 | .4 | 2.0 | 1.1 |
| 398 | 10/26/77 | 20 | 1.9 | .0 | 1.9 | .2 | 1.9 | .3 | 1.9 | .2 | 1.9 | .5 |
| 399 | 10/25/77 | 20 | 1.7 | .0 | 1.7 | .0 | 1.7 | .0 | 1.7 | .0 | 1.7 | .6 |
| 400 | 10/11/77 | 20 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 |
| 401 | 10/28/77 | 21 | 7.1 | .0 | 7.1 | .6 | 7.1 | .6 | 7.1 | .5 | 7.1 | 1.1 |
| 402 | 10/27/77 | 21 | 6.7 | .0 | 6.7 | .0 | 6.7 | .8 | 6.7 | .9 | 6.7 | .0 |
| 403 | 10/20/77 | 21 | 5.4 | .7 | 5.4 | .6 | 5.4 | .0 | 5.4 | .6 | 5.4 | .9 |
| 404 | 10/21/77 | 21 | 4.3 | .9 | 4.3 | .4 | 4.3 | .4 | 4.3 | .4 | 4.3 | .0 |
| 405 | 10/31/77 | 21 | 3.0 | .0 | 3.0 | .5 | 3.0 | .4 | 3.0 | .4 | 3.0 | 1.1 |
| 406 | 10/24/77 | 21 | 3.0 | .9 | 3.0 | .6 | 3.0 | .5 | 3.0 | .4 | 3.0 | 1.1 |
| 407 | 10/26/77 | 21 | 2.6 | .0 | 2.6 | .3 | 2.6 | .4 | 2.6 | .3 | 2.6 | .7 |
| 408 | 11/02/77 | 21 | 2.5 | .0 | 2.5 | .5 | 2.5 | .4 | 2.5 | .3 | 2.5 | 1.1 |
| 409 | 10/25/77 | 21 | 2.0 | .0 | 2.0 | .0 | 2.0 | .0 | 2.0 | .0 | 2.0 | .8 |
| 410 | 11/01/77 | 21 | 1.4 | .0 | 1.4 | .4 | 1.4 | .0 | 1.4 | .3 | 1.4 | .8 |
| 411 | 10/06/77 | 21 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 |
| 412 | 10/07/77 | 21 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 |
| 413 | 10/10/77 | 21 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 |
| 414 | 10/11/77 | 21 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 |
| 415 | 10/12/77 | 21 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 |
| 416 | 10/13/77 | 21 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 |
| 417 | 10/14/77 | 21 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 |
| 418 | 10/17/77 | 21 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 |
| 419 | 10/18/77 | 21 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 |
| 420 | 10/19/77 | 21 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 |

| RECNO | DATE | SIT | AUC | R.C.J | AUC | R.C.U | AUC | R.C.S | AUC | R.C.P | AUC | R.C.F |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 421 | 10/27/77 | 22 | 11.2 | .0 | 11.2 | .0 | 11.2 | 1.3 | 11.2 | 1.5 | 11.2 | .0 |
| 422 | 10/21/77 | 22 | 10.9 | 2.3 | 10.9 | 1.0 | 10.9 | 1.1 | 10.9 | .9 | 10.9 | .0 |
| 423 | 10/12/77 | 22 | 10.7 | 2.6 | 10.7 | .0 | 10.7 | .0 | 10.7 | 1.3 | 10.7 | .0 |
| 424 | 10/06/77 | 22 | 10.5 | 1.7 | 10.5 | 1.0 | 10.5 | 1.1 | 10.5 | 1.1 | 10.5 | 1.7 |
| 425 | 10/31/77 | 22 | 9.5 | .0 | 9.5 | 1.6 | 9.5 | 1.4 | 9.5 | 1.2 | 9.5 | 3.5 |
| 426 | 10/07/77 | 22 | 9.0 | 1.4 | 9.0 | 1.5 | 9.0 | 1.5 | 9.0 | 1.0 | 9.0 | 2.6 |
| 427 | 10/10/77 | 22 | 9.0 | 1.0 | 9.0 | 1.3 | 9.0 | 1.4 | 9.0 | .0 | 9.0 | 1.8 |
| 428 | 10/24/77 | 22 | 8.9 | 2.6 | 8.9 | 1.7 | 8.9 | 1.4 | 8.9 | 1.1 | 8.9 | 3.4 |
| 429 | 10/26/77 | 22 | 8.8 | .0 | 8.8 | 1.1 | 8.8 | 1.2 | 8.8 | .9 | 8.8 | 2.4 |
| 430 | 10/18/77 | 22 | 8.7 | 1.2 | 8.7 | 1.2 | 8.7 | 1.5 | 8.7 | 1.4 | 8.7 | .0 |
| 431 | 10/25/77 | 22 | 8.0 | .0 | 8.0 | .0 | 8.0 | .0 | 8.0 | .0 | 8.0 | 3.0 |
| 432 | 11/02/77 | 22 | 7.9 | .0 | 7.9 | 1.6 | 7.9 | 1.3 | 7.9 | 1.1 | 7.9 | 3.5 |
| 433 | 10/20/77 | 22 | 7.5 | 1.0 | 7.5 | .8 | 7.5 | .0 | 7.5 | .8 | 7.5 | 1.3 |
| 434 | 10/11/77 | 22 | 6.4 | .6 | 6.4 | .8 | 6.4 | .0 | 6.4 | .5 | 6.4 | 2.1 |
| 435 | 10/17/77 | 22 | 6.1 | .0 | 6.1 | 1.3 | 6.1 | .0 | 6.1 | .0 | 6.1 | .0 |
| 436 | 10/14/77 | 22 | 5.6 | .5 | 5.6 | .9 | 5.6 | 1.0 | 5.6 | .4 | 5.6 | .0 |
| 437 | 11/01/77 | 22 | 5.0 | .0 | 5.0 | 1.4 | 5.0 | .0 | 5.0 | 1.1 | 5.0 | 2.9 |
| 438 | 10/13/77 | 22 | 4.5 | .5 | 4.5 | 1.2 | 4.5 | .7 | 4.5 | .5 | 4.5 | .0 |
| 439 | 10/19/77 | 22 | 3.9 | .4 | 3.9 | .9 | 3.9 | .6 | 3.9 | .3 | 3.9 | .0 |
| 440 | 10/28/77 | 22 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 |
| 441 | 10/21/77 | 23 | 11.4 | 2.4 | 11.4 | 1.0 | 11.4 | 1.2 | 11.4 | 1.0 | 11.4 | .0 |
| 442 | 10/12/77 | 23 | 9.9 | 2.4 | 9.9 | .0 | 9.9 | .8 | 9.9 | 1.2 | 9.9 | .0 |
| 443 | 10/28/77 | 23 | 9.0 | .0 | 9.0 | .7 | 9.0 | .7 | 9.0 | .7 | 9.0 | 1.4 |
| 444 | 10/06/77 | 23 | 8.9 | 1.5 | 8.9 | .8 | 8.9 | .9 | 8.9 | .9 | 8.9 | 1.5 |
| 445 | 10/17/77 | 23 | 8.9 | .0 | 8.9 | 1.8 | 8.9 | .0 | 8.9 | .0 | 8.9 | .0 |
| 446 | 10/27/77 | 23 | 8.6 | .0 | 8.6 | .0 | 8.6 | 1.0 | 8.6 | 1.1 | 8.6 | .0 |
| 447 | 10/10/77 | 23 | 6.9 | .8 | 6.9 | 1.0 | 6.9 | 1.0 | 6.9 | .0 | 6.9 | 1.4 |
| 448 | 10/20/77 | 23 | 6.7 | .9 | 6.7 | .7 | 6.7 | .0 | 6.7 | .7 | 6.7 | 1.1 |
| 449 | 10/24/77 | 23 | 6.4 | 1.0 | 6.4 | 1.2 | 6.4 | 1.0 | 6.4 | .8 | 6.4 | 2.4 |
| 450 | 10/26/77 | 23 | 6.4 | .0 | 6.4 | .8 | 6.4 | .9 | 6.4 | .7 | 6.4 | 1.8 |
| 451 | 10/18/77 | 23 | 6.3 | .9 | 6.3 | .9 | 6.3 | 1.1 | 6.3 | 1.1 | 6.3 | .0 |
| 452 | 10/07/77 | 23 | 6.0 | .9 | 6.0 | 1.0 | 6.0 | 1.0 | 6.0 | 1.3 | 6.0 | 1.7 |
| 453 | 10/31/77 | 23 | 5.9 | .0 | 5.9 | 1.0 | 5.9 | .9 | 5.9 | .7 | 5.9 | 2.1 |
| 454 | 10/19/77 | 23 | 5.4 | .5 | 5.4 | 1.2 | 5.4 | .0 | 5.4 | .5 | 5.4 | .0 |
| 455 | 10/11/77 | 23 | 5.2 | .6 | 5.2 | .7 | 5.2 | .7 | 5.2 | .4 | 5.2 | 1.7 |
| 456 | 11/02/77 | 23 | 5.0 | .0 | 5.0 | 1.0 | 5.0 | .8 | 5.0 | .7 | 5.0 | 2.2 |
| 457 | 10/14/77 | 23 | 4.9 | .4 | 4.9 | .8 | 4.9 | .8 | 4.9 | .3 | 4.9 | .0 |
| 458 | 10/13/77 | 23 | 4.5 | .5 | 4.5 | 1.2 | 4.5 | .7 | 4.5 | .5 | 4.5 | .0 |
| 459 | 10/25/77 | 23 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 |
| 460 | 11/01/77 | 23 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 |
| 461 | 10/28/77 | 24 | 10.7 | .0 | 10.7 | .8 | 10.7 | .9 | 10.7 | .8 | 10.7 | 1.6 |
| 462 | 10/21/77 | 24 | 9.6 | 2.0 | 9.6 | .9 | 9.6 | 1.0 | 9.6 | .8 | 9.6 | .0 |
| 463 | 10/27/77 | 24 | 8.6 | .0 | 8.6 | .0 | 8.6 | 1.0 | 8.6 | 1.1 | 8.6 | .0 |
| 464 | 10/18/77 | 24 | 7.8 | 1.9 | 7.8 | .0 | 7.8 | .0 | 7.8 | .9 | 7.8 | .0 |
| 465 | 10/25/77 | 24 | 6.3 | .0 | 6.3 | .0 | 6.3 | .0 | 6.3 | .0 | 6.3 | 2.4 |
| 466 | 10/07/77 | 24 | 6.2 | 1.0 | 6.2 | 1.0 | 6.2 | 1.0 | 6.2 | 1.3 | 6.2 | 1.8 |
| 467 | 10/31/77 | 24 | 6.0 | .0 | 6.0 | 1.0 | 6.0 | .9 | 6.0 | .7 | 6.0 | 2.2 |
| 468 | 10/26/77 | 24 | 5.7 | .0 | 5.7 | .7 | 5.7 | .8 | 5.7 | .6 | 5.7 | 1.6 |
| 469 | 10/10/77 | 24 | 5.6 | .6 | 5.6 | .8 | 5.6 | .8 | 5.6 | .0 | 5.6 | 1.1 |
| 470 | 10/17/77 | 24 | 5.6 | .0 | 5.6 | 1.1 | 5.6 | .0 | 5.6 | .0 | 5.6 | .0 |
| 471 | 11/02/77 | 24 | 5.3 | .0 | 5.3 | 1.1 | 5.3 | .9 | 5.3 | .7 | 5.3 | 2.4 |
| 472 | 10/11/77 | 24 | 5.1 | .5 | 5.1 | .7 | 5.1 | .7 | 5.1 | .4 | 5.1 | 1.7 |
| 473 | 10/24/77 | 24 | 5.1 | 1.6 | 5.1 | 1.0 | 5.1 | .8 | 5.1 | .6 | 5.1 | 1.9 |
| 474 | 10/19/77 | 24 | 4.7 | .5 | 4.7 | 1.1 | 4.7 | .8 | 4.7 | .4 | 4.7 | .0 |
| 475 | 10/14/77 | 24 | 3.5 | .3 | 3.5 | .6 | 3.5 | .6 | 3.5 | .2 | 3.5 | .0 |
| 476 | 10/13/77 | 24 | 3.3 | .4 | 3.3 | .9 | 3.3 | .5 | 3.3 | .3 | 3.3 | .0 |
| 477 | 11/01/77 | 24 | 3.2 | .0 | 3.2 | .0 | 3.2 | .0 | 3.2 | .7 | 3.2 | 1.8 |
| 478 | 10/08/77 | 24 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 |
| 479 | 10/18/77 | 24 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 |
| 480 | 10/20/77 | 24 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 |

| RECNO | DATE | SIT | AVC | R.C.J | AVC | R.C.U | AVC | R.C.S | AVC | R.C.P | AVC | R.C.F |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 481 | 10/28/77 | 25 | 9.3 | .0 | 9.3 | .7 | 9.3 | .0 | 9.3 | .7 | 9.3 | 1.4 |
| 482 | 10/27/77 | 25 | 9.0 | .0 | 9.0 | .0 | 9.0 | 1.0 | 9.0 | 1.2 | 9.0 | .0 |
| 483 | 10/18/77 | 25 | 7.5 | 1.1 | 7.5 | 1.0 | 7.5 | 1.3 | 7.5 | 1.2 | 7.5 | .0 |
| 484 | 10/11/77 | 25 | 7.1 | .7 | 7.1 | .9 | 7.1 | 1.0 | 7.1 | .5 | 7.1 | 2.4 |
| 485 | 10/10/77 | 25 | 6.9 | .8 | 6.9 | 1.0 | 6.9 | 1.0 | 6.9 | .0 | 6.9 | 1.4 |
| 486 | 10/21/77 | 25 | 6.9 | 1.6 | 6.9 | .8 | 6.9 | .7 | 6.9 | .6 | 6.9 | .0 |
| 487 | 10/17/77 | 25 | 6.7 | .0 | 6.7 | 1.4 | 6.7 | .0 | 6.7 | .0 | 6.7 | .0 |
| 488 | 10/06/77 | 25 | 6.5 | 1.1 | 6.5 | .6 | 6.5 | .7 | 6.5 | .7 | 6.5 | 1.1 |
| 489 | 10/14/77 | 25 | 6.5 | .8 | 6.5 | 1.0 | 6.5 | 1.1 | 6.5 | .4 | 6.5 | .0 |
| 490 | 10/20/77 | 25 | 6.2 | .0 | 6.2 | .7 | 6.2 | .0 | 6.2 | .7 | 6.2 | 1.0 |
| 491 | 10/19/77 | 25 | 6.1 | .6 | 6.1 | 1.4 | 6.1 | 1.0 | 6.1 | .5 | 6.1 | .0 |
| 492 | 10/12/77 | 25 | 5.6 | 1.4 | 5.6 | .0 | 5.6 | .0 | 5.6 | .7 | 5.6 | .0 |
| 493 | 10/07/77 | 25 | 5.5 | .9 | 5.5 | .9 | 5.5 | .0 | 5.5 | 1.2 | 5.5 | 1.6 |
| 494 | 10/13/77 | 25 | 4.7 | .5 | 4.7 | 1.3 | 4.7 | .8 | 4.7 | .5 | 4.7 | .0 |
| 495 | 10/26/77 | 25 | 4.7 | .0 | 4.7 | .6 | 4.7 | .7 | 4.7 | .5 | 4.7 | 1.3 |
| 496 | 10/25/77 | 25 | 4.3 | .0 | 4.3 | .0 | 4.3 | .0 | 4.3 | .0 | 4.3 | 1.6 |
| 497 | 10/31/77 | 25 | 4.1 | .0 | 4.1 | .7 | 4.1 | .6 | 4.1 | .5 | 4.1 | 1.5 |
| 498 | 11/02/77 | 25 | 4.1 | .0 | 4.1 | .8 | 4.1 | .7 | 4.1 | .6 | 4.1 | 1.8 |
| 499 | 10/24/77 | 25 | 4.0 | 1.2 | 4.0 | .8 | 4.0 | .6 | 4.0 | .5 | 4.0 | 1.5 |
| 500 | 11/01/77 | 25 | 2.4 | .0 | 2.4 | .7 | 2.4 | .0 | 2.4 | .5 | 2.4 | 1.4 |
| 501 | 10/14/77 | 26 | 8.6 | .8 | 8.6 | 1.4 | 8.6 | 1.5 | 8.6 | .5 | 8.6 | .0 |
| 502 | 10/11/77 | 26 | 8.0 | .8 | 8.0 | 1.0 | 8.0 | 1.1 | 8.0 | .6 | 8.0 | 2.6 |
| 503 | 10/28/77 | 26 | 7.1 | .0 | 7.1 | .6 | 7.1 | .6 | 7.1 | .5 | 7.1 | 1.1 |
| 504 | 10/19/77 | 26 | 6.4 | .6 | 6.4 | 1.5 | 6.4 | 1.0 | 6.4 | .6 | 6.4 | .0 |
| 505 | 10/27/77 | 26 | 6.3 | .0 | 6.3 | .0 | 6.3 | .7 | 6.3 | .8 | 6.3 | .0 |
| 506 | 10/17/77 | 26 | 5.9 | .0 | 5.9 | 1.2 | 5.9 | .0 | 5.9 | .0 | 5.9 | .0 |
| 507 | 10/20/77 | 26 | 5.6 | .8 | 5.6 | .6 | 5.6 | .0 | 5.6 | .6 | 5.6 | 1.0 |
| 508 | 10/13/77 | 26 | 5.6 | .6 | 5.6 | 1.5 | 5.6 | .9 | 5.6 | .6 | 5.6 | .0 |
| 509 | 10/21/77 | 26 | 5.4 | 1.1 | 5.4 | .5 | 5.4 | .6 | 5.4 | .5 | 5.4 | .0 |
| 510 | 10/18/77 | 26 | 5.3 | .8 | 5.3 | .7 | 5.3 | .9 | 5.3 | .9 | 5.3 | .0 |
| 511 | 10/06/77 | 26 | 5.1 | .8 | 5.1 | .5 | 5.1 | .5 | 5.1 | .5 | 5.1 | .8 |
| 512 | 10/24/77 | 26 | 4.7 | 1.4 | 4.7 | .9 | 4.7 | .7 | 4.7 | .6 | 4.7 | 1.8 |
| 513 | 10/07/77 | 26 | 4.2 | .7 | 4.2 | .7 | 4.2 | .7 | 4.2 | .9 | 4.2 | 1.2 |
| 514 | 10/12/77 | 26 | 4.2 | 1.0 | 4.2 | .0 | 4.2 | .0 | 4.2 | .5 | 4.2 | .0 |
| 515 | 10/31/77 | 26 | 3.4 | .0 | 3.4 | .6 | 3.4 | .5 | 3.4 | .4 | 3.4 | 1.2 |
| 516 | 11/02/77 | 26 | 2.6 | .0 | 2.6 | .5 | 2.6 | .4 | 2.6 | .4 | 2.6 | 1.2 |
| 517 | 11/01/77 | 26 | 1.3 | .0 | 1.3 | .4 | 1.3 | .0 | 1.3 | .3 | 1.3 | .7 |
| 518 | 10/10/77 | 26 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 |
| 519 | 10/25/77 | 26 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 |
| 520 | 10/26/77 | 26 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 |
| 521 | 10/21/77 | 27 | 8.5 | 1.8 | 8.5 | .8 | 8.5 | .9 | 8.5 | .7 | 8.5 | .0 |
| 522 | 10/28/77 | 27 | 7.1 | .0 | 7.1 | .6 | 7.1 | .6 | 7.1 | .5 | 7.1 | 1.1 |
| 523 | 10/12/77 | 27 | 6.5 | 1.6 | 6.5 | .0 | 6.5 | .0 | 6.5 | .8 | 6.5 | .0 |
| 524 | 10/06/77 | 27 | 6.3 | 1.1 | 6.3 | .6 | 6.3 | .7 | 6.3 | .7 | 6.3 | 1.1 |
| 525 | 10/27/77 | 27 | 6.0 | .0 | 6.0 | .0 | 6.0 | .7 | 6.0 | .8 | 6.0 | .0 |
| 526 | 10/14/77 | 27 | 5.0 | .4 | 5.0 | .8 | 5.0 | .9 | 5.0 | .3 | 5.0 | .0 |
| 527 | 10/10/77 | 27 | 4.9 | .5 | 4.9 | .7 | 4.9 | .7 | 4.9 | .0 | 4.9 | 1.0 |
| 528 | 10/07/77 | 27 | 4.7 | .7 | 4.7 | .8 | 4.7 | .8 | 4.7 | 1.0 | 4.7 | 1.3 |
| 529 | 10/31/77 | 27 | 4.7 | .0 | 4.7 | .8 | 4.7 | .7 | 4.7 | .6 | 4.7 | 1.7 |
| 530 | 11/02/77 | 27 | 4.7 | .0 | 4.7 | 1.0 | 4.7 | .8 | 4.7 | .6 | 4.7 | 2.1 |
| 531 | 10/11/77 | 27 | 4.6 | .5 | 4.6 | .6 | 4.6 | .6 | 4.6 | .3 | 4.6 | 1.5 |
| 532 | 10/26/77 | 27 | 4.6 | .0 | 4.6 | .6 | 4.6 | .7 | 4.6 | .5 | 4.6 | 1.3 |
| 533 | 10/24/77 | 27 | 4.4 | 1.3 | 4.4 | .9 | 4.4 | .7 | 4.4 | .6 | 4.4 | 1.7 |
| 534 | 10/19/77 | 27 | 4.4 | .4 | 4.4 | 1.0 | 4.4 | .7 | 4.4 | .4 | 4.4 | .0 |
| 535 | 10/25/77 | 27 | 4.0 | .0 | 4.0 | .0 | 4.0 | .0 | 4.0 | .0 | 4.0 | 1.5 |
| 536 | 10/13/77 | 27 | 3.7 | .4 | 3.7 | 1.0 | 3.7 | .6 | 3.7 | .4 | 3.7 | .0 |
| 537 | 11/01/77 | 27 | 2.0 | .0 | 2.0 | .6 | 2.0 | .0 | 2.0 | .4 | 2.0 | 1.2 |
| 538 | 10/17/77 | 27 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 |
| 539 | 10/18/77 | 27 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 |
| 540 | 10/20/77 | 27 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 |

| RECNO | DATE | SIT | AUC | R.C.J | AUC | R.C.U | AUC | R.C.S | AUC | R.C.P | AUC | R.C.F |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 541 | 10/14/77 | 28 | 10.2 | .9 | 10.2 | 1.6 | 10.2 | 1.7 | 10.2 | .6 | 10.2 | .0 |
| 542 | 10/07/77 | 28 | 10.0 | 1.6 | 10.0 | 1.7 | 10.0 | 1.7 | 10.0 | 2.1 | 10.0 | 2.0 |
| 543 | 10/10/77 | 28 | 9.1 | 1.0 | 9.1 | 1.3 | 9.1 | 1.4 | 9.1 | .0 | 9.1 | 1.9 |
| 544 | 10/11/77 | 28 | 9.1 | .9 | 9.1 | 1.2 | 9.1 | 1.2 | 9.1 | .7 | 9.1 | 3.0 |
| 545 | 10/18/77 | 28 | 9.0 | 1.3 | 9.0 | 1.2 | 9.0 | 1.6 | 9.0 | 1.5 | 9.0 | .0 |
| 546 | 10/20/77 | 28 | 8.7 | 1.2 | 8.7 | 1.0 | 8.7 | .0 | 8.7 | 1.0 | 8.7 | 1.5 |
| 547 | 10/13/77 | 28 | 8.6 | 1.0 | 8.5 | 2.3 | 8.6 | 1.4 | 8.5 | .9 | 8.5 | .0 |
| 548 | 10/17/77 | 28 | 8.6 | .0 | 8.5 | 1.7 | 8.5 | .0 | 8.5 | .0 | 8.5 | .0 |
| 549 | 10/21/77 | 28 | 7.6 | 1.6 | 7.6 | .7 | 7.6 | .8 | 7.6 | .6 | 7.6 | .0 |
| 550 | 10/06/77 | 28 | 6.9 | 1.1 | 6.9 | .6 | 6.9 | .7 | 6.9 | .7 | 6.9 | 1.1 |
| 551 | 10/25/77 | 28 | 6.1 | .0 | 6.1 | .0 | 6.1 | .0 | 6.1 | .0 | 6.1 | 2.3 |
| 552 | 10/12/77 | 28 | 5.7 | 1.4 | 5.7 | .0 | 5.7 | .0 | 5.7 | .7 | 5.7 | .0 |
| 553 | 10/31/77 | 28 | 4.6 | .0 | 4.6 | .8 | 4.6 | .7 | 4.6 | .6 | 4.6 | 1.7 |
| 554 | 10/24/77 | 28 | 3.5 | 1.1 | 3.5 | .7 | 3.5 | .6 | 3.5 | .4 | 3.5 | 1.4 |
| 555 | 11/01/77 | 28 | 2.6 | .0 | 2.6 | .7 | 2.6 | .0 | 2.6 | .6 | 2.6 | 1.5 |
| 556 | 10/19/77 | 28 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 |
| 657 | 10/26/77 | 28 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 |
| 558 | 10/27/77 | 28 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 |
| 559 | 10/28/77 | 28 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 |
| 560 | 11/02/77 | 28 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 |
| 561 | 10/28/77 | 29 | 10.4 | .0 | 10.4 | .8 | 10.4 | .8 | 10.4 | .8 | 10.4 | 1.6 |
| 562 | 11/01/77 | 29 | 8.1 | .0 | 8.1 | 2.3 | 8.1 | .0 | 8.1 | 1.8 | 8.1 | 4.6 |
| 563 | 10/27/77 | 29 | 7.1 | .0 | 7.1 | .0 | 7.1 | .8 | 7.1 | .9 | 7.1 | .0 |
| 564 | 10/18/77 | 29 | 6.9 | 1.0 | 6.9 | 1.0 | 6.9 | 1.2 | 6.9 | 1.1 | 6.9 | .0 |
| 565 | 10/17/77 | 29 | 6.4 | .0 | 6.4 | 1.3 | 6.4 | .0 | 6.4 | .0 | 6.4 | .0 |
| 566 | 10/10/77 | 29 | 6.3 | .7 | 6.3 | .9 | 6.3 | .9 | 6.3 | .0 | 6.3 | 1.3 |
| 567 | 10/11/77 | 29 | 5.9 | .6 | 5.9 | .8 | 5.9 | .8 | 5.9 | .4 | 5.9 | 2.0 |
| 568 | 10/21/77 | 29 | 5.9 | 1.2 | 5.9 | .5 | 5.9 | .6 | 5.9 | .5 | 5.9 | .0 |
| 569 | 10/19/77 | 29 | 5.7 | .6 | 5.7 | 1.3 | 5.7 | .9 | 5.7 | .5 | 5.7 | .0 |
| 570 | 10/14/77 | 29 | 5.5 | .5 | 5.5 | .9 | 5.5 | .9 | 5.5 | .3 | 5.5 | .0 |
| 571 | 10/20/77 | 29 | 5.5 | .8 | 5.5 | .6 | 5.5 | .0 | 5.5 | .6 | 5.5 | .9 |
| 572 | 10/07/77 | 29 | 5.5 | .9 | 5.5 | .9 | 5.5 | .9 | 5.5 | 1.1 | 5.5 | 1.6 |
| 573 | 10/06/77 | 29 | 5.3 | .9 | 5.3 | .5 | 5.3 | .6 | 5.3 | .5 | 5.3 | .0 |
| 574 | 10/13/77 | 29 | 5.0 | .6 | 5.0 | 1.3 | 5.0 | .8 | 5.0 | .5 | 5.0 | .0 |
| 575 | 10/24/77 | 29 | 4.7 | 1.4 | 4.7 | .9 | 4.7 | .7 | 4.7 | .6 | 4.7 | 1.8 |
| 576 | 10/12/77 | 29 | 4.6 | 1.1 | 4.5 | .0 | 4.5 | .0 | 4.5 | .5 | 4.6 | .0 |
| 577 | 11/02/77 | 29 | 3.7 | .0 | 3.7 | .8 | 3.7 | .6 | 3.7 | .5 | 3.7 | 1.7 |
| 578 | 10/25/77 | 29 | 3.0 | .0 | 3.0 | .0 | 3.0 | .0 | 3.0 | .0 | 3.0 | 1.1 |
| 579 | 10/26/77 | 29 | 2.8 | .0 | 2.8 | .4 | 2.8 | .4 | 2.8 | .3 | 2.8 | .0 |
| 580 | 10/31/77 | 29 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 |
| 581 | 10/14/77 | 30 | 7.9 | .7 | 7.9 | 1.3 | 7.9 | 1.3 | 7.9 | .5 | 7.9 | .0 |
| 582 | 10/19/77 | 30 | 7.4 | .7 | 7.4 | 1.7 | 7.4 | 1.2 | 7.4 | .6 | 7.4 | .0 |
| 583 | 10/10/77 | 30 | 7.2 | .8 | 7.2 | 1.0 | 7.2 | 1.1 | 7.2 | .0 | 7.2 | 1.5 |
| 584 | 10/20/77 | 30 | 7.0 | 1.0 | 7.0 | .8 | 7.0 | .0 | 7.0 | .8 | 7.0 | 1.2 |
| 585 | 10/11/77 | 30 | 7.0 | .7 | 7.0 | .9 | 7.0 | .9 | 7.0 | .6 | 7.0 | 2.3 |
| 586 | 10/18/77 | 30 | 6.5 | .9 | 6.6 | .9 | 6.6 | 1.2 | 6.5 | 1.1 | 6.5 | .0 |
| 587 | 10/28/77 | 30 | 6.5 | .0 | 6.5 | .5 | 6.5 | .5 | 6.5 | .5 | 6.5 | 1.0 |
| 588 | 10/13/77 | 30 | 6.2 | .7 | 6.2 | 1.7 | 6.2 | 1.0 | 6.2 | .6 | 6.2 | .0 |
| 589 | 10/27/77 | 30 | 6.0 | .0 | 6.0 | .0 | 6.0 | .7 | 6.0 | .8 | 6.0 | .0 |
| 590 | 10/17/77 | 30 | 6.0 | .0 | 6.0 | 1.2 | 6.0 | .0 | 6.0 | .0 | 6.0 | .0 |
| 591 | 10/21/77 | 30 | 3.9 | .8 | 3.9 | .4 | 3.9 | .4 | 3.9 | .3 | 3.9 | .0 |
| 592 | 10/26/77 | 30 | 3.4 | .0 | 3.4 | .4 | 3.4 | .5 | 3.4 | .4 | 3.4 | .9 |
| 693 | 10/12/77 | 30 | 3.3 | .8 | 3.3 | .0 | 3.3 | .0 | 3.3 | .4 | 3.3 | .0 |
| 594 | 10/31/77 | 30 | 3.2 | .0 | 3.2 | .5 | 3.2 | .6 | 3.2 | .4 | 3.2 | 1.1 |
| 595 | 11/02/77 | 30 | 3.0 | .0 | 3.0 | .6 | 3.0 | .6 | 3.0 | .4 | 3.0 | 1.4 |
| 596 | 10/24/77 | 30 | 2.9 | .8 | 2.9 | .6 | 2.9 | .4 | 2.9 | .4 | 2.9 | 1.1 |
| 597 | 10/25/77 | 30 | 2.2 | .0 | 2.2 | .0 | 2.2 | .0 | 2.2 | .0 | 2.2 | .8 |
| 598 | 11/01/77 | 30 | 1.4 | .0 | 1.4 | .4 | 1.4 | .0 | 1.4 | .3 | 1.4 | .8 |
| 599 | 10/06/77 | 30 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 |
| 600 | 10/07/77 | 30 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 |

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RECNO  DATE      SIT  AVG———↓   R.C.J  AVG———↓   R.C.U  AVG———↓   R.C.S  AVG———↓   R.C.P  AVG———↓   R.C.F
  601  10/20/77  31          7.8    1.0          7.8     .8          7.8     .0          7.8     .0          7.8    1.8
  602  10/28/77  31          7.2     .0          7.2     .6          7.2     .6          7.2     .5          7.2    1.1
  603  10/14/77  31          6.8     .6          6.8    1.1          6.8    1.2          6.8     .4          6.8     .0
  604  10/19/77  31          6.7     .6          6.7    1.5          6.7    1.1          6.7     .6          6.7     .0
  605  10/13/77  31          6.4     .7          6.4    1.7          6.4    1.1          6.4     .6          6.4     .0
  606  10/06/77  31          6.1    1.0          6.1     .6          6.1     .6          6.1     .6          6.1    1.0
  607  10/18/77  31          5.8     .8          5.8     .8          5.8    1.0          5.8    1.0          5.8     .0
  608  10/26/77  31          5.6     .0          5.6     .7          5.6     .8          5.6     .6          5.6    1.5
  609  10/07/77  31          5.0     .8          5.0     .9          5.0     .8          5.0    1.1          5.0    1.4
  610  10/12/77  31          5.0    1.2          5.0     .0          5.0     .0          5.0     .6          5.0     .0
  611  10/17/77  31          5.0     .0          5.0    1.0          5.0     .0          5.0     .0          5.0     .0
  612  10/24/77  31          4.6    1.4          4.6     .9          4.6     .7          4.6     .6          4.6    1.8
  613  10/21/77  31          4.1     .9          4.1     .4          4.1     .4          4.1     .3          4.1     .0
  614  10/25/77  31          3.5     .0          3.5     .0          3.5     .0          3.5     .0          3.5    1.3
  615  10/31/77  31          2.6     .0          2.6     .4          2.6     .4          2.6     .3          2.6     .9
  616  11/02/77  31          1.8     .0          1.8     .4          1.8     .3          1.8     .2          1.8     .8
  617  11/01/77  31          1.2     .0          1.2     .3          1.2     .0          1.2     .2          1.2     .7
  618  10/10/77  31           .0     .0           .0     .0           .0     .0           .0     .0           .0     .0
  619  10/11/77  31           .0     .0           .0     .0           .0     .0           .0     .0           .0     .0
  620  10/27/77  31           .0     .0           .0     .0           .0     .0           .0     .0           .0     .0
  621  10/10/77  32          5.4     .6          5.4     .8          5.4     .8          5.4     .0          5.4    1.1
  622  10/06/77  32          4.3     .7          4.3     .4          4.3     .5          4.3     .4          4.3     .7
  623  10/12/77  32          3.7     .9          3.7     .0          3.7     .0          3.7     .4          3.7     .0
  624  10/18/77  32          3.5     .5          3.5     .5          3.5     .6          3.5     .6          3.5     .0
  625  10/19/77  32          3.4     .3          3.4     .8          3.4     .5          3.4     .3          3.4     .0
  626  10/11/77  32          3.1     .3          3.1     .4          3.1     .4          3.1     .2          3.1    1.0
  627  10/14/77  32          3.1     .3          3.1     .5          3.1     .5          3.1     .2          3.1     .0
  628  10/17/77  32          3.0     .0          3.0     .6          3.0     .0          3.0     .0          3.0     .0
  629  10/07/77  32          2.9     .5          2.9     .5          2.9     .5          2.9     .6          2.9     .8
  630  10/13/77  32          2.1     .2          2.1     .6          2.1     .4          2.1     .2          2.1     .0
  631  10/20/77  32           .0     .0           .0     .0           .0     .0           .0     .0           .0     .0
  632  10/21/77  32           .0     .0           .0     .0           .0     .0           .0     .0           .0     .0
  633  10/24/77  32           .0     .0           .0     .0           .0     .0           .0     .0           .0     .0
  634  10/25/77  32           .0     .0           .0     .0           .0     .0           .0     .0           .0     .0
  635  10/26/77  32           .0     .0           .0     .0           .0     .0           .0     .0           .0     .0
  636  10/27/77  32           .0     .0           .0     .0           .0     .0           .0     .0           .0     .0
  637  10/28/77  32           .0     .0           .0     .0           .0     .0           .0     .0           .0     .0
  638  10/31/77  32           .0     .0           .0     .0           .0     .0           .0     .0           .0     .0
  639  11/01/77  32           .0     .0           .0     .0           .0     .0           .0     .0           .0     .0
  640  11/02/77  32           .0     .0           .0     .0           .0     .0           .0     .0           .0     .0
  641  10/10/77  33          4.6     .5          4.6     .7          4.6     .7          4.6     .0          4.6     .0
  642  10/17/77  33          4.2     .0          4.2     .9          4.2     .0          4.2     .0          4.2     .0
  643  10/14/77  33          4.0     .4          4.0     .6          4.0     .7          4.0     .3          4.0     .0
  644  10/19/77  33          3.6     .4          3.6     .8          3.6     .6          3.6     .3          3.6     .0
  645  10/18/77  33          3.4     .4          3.4     .4          3.4     .6          3.4     .5          3.4     .0
  646  10/13/77  33          2.5     .3          2.5     .7          2.5     .4          2.5     .3          2.5     .0
  647  10/11/77  33          2.4     .8          2.4     .3          2.4     .3          2.4     .2          2.4     .0
  648  10/07/77  33          2.0     .3          2.0     .3          2.0     .3          2.0     .4          2.0     .0
  649  10/06/77  33           .0     .0           .0     .0           .0     .0           .0     .0           .0     .0
  650  10/12/77  33           .0     .0           .0     .0           .0     .0           .0     .0           .0     .0
  651  10/20/77  33           .0     .0           .0     .0           .0     .0           .0     .0           .0     .0
  652  10/21/77  33           .0     .0           .0     .0           .0     .0           .0     .0           .0     .0
  653  10/24/77  33           .0     .0           .0     .0           .0     .0           .0     .0           .0     .0
  654  10/25/77  33           .0     .0           .0     .0           .0     .0           .0     .0           .0     .0
  655  10/26/77  33           .0     .0           .0     .0           .0     .0           .0     .0           .0     .0
  656  10/27/77  33           .0     .0           .0     .0           .0     .0           .0     .0           .0     .0
  657  10/28/77  33           .0     .0           .0     .0           .0     .0           .0     .0           .0     .0
  658  10/31/77  33           .0     .0           .0     .0           .0     .0           .0     .0           .0     .0
  659  11/01/77  33           .0     .0           .0     .0           .0     .0           .0     .0           .0     .0
  660  11/02/77  33           .0     .0           .0     .0           .0     .0           .0     .0           .0     .0
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| RECNO | DATE | SIT | AVG | R.C.J | AVG | R.C.U | AVG | R.C.S | AVG | R.C.P | AVG | R.C.F |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 661 | 10/28/77 | 34 | 10.3 | .0 | 10.3 | .0 | 10.3 | .0 | 10.3 | .0 | 10.3 | 1.6 |
| 662 | 10/27/77 | 34 | 8.7 | .0 | 8.7 | .0 | 8.7 | 1.0 | 8.7 | 1.1 | 8.7 | .0 |
| 663 | 10/18/77 | 34 | 8.0 | 1.1 | 8.0 | 1.1 | 8.0 | 1.4 | 8.0 | 1.3 | 8.0 | .0 |
| 664 | 10/06/77 | 34 | 7.4 | 1.2 | 7.4 | .7 | 7.4 | .8 | 7.4 | .8 | 7.4 | 1.2 |
| 665 | 10/20/77 | 34 | 6.9 | 1.0 | 6.9 | .8 | 6.9 | .0 | 6.9 | .8 | 6.9 | 1.2 |
| 666 | 10/10/77 | 34 | 6.6 | .7 | 6.6 | .9 | 6.6 | 1.0 | 6.6 | .0 | 6.6 | 1.3 |
| 667 | 10/17/77 | 34 | 6.6 | .0 | 6.6 | 1.3 | 6.6 | .0 | 6.6 | .0 | 6.6 | .0 |
| 668 | 10/31/77 | 34 | 6.3 | .0 | 6.3 | 1.0 | 6.3 | .9 | 6.3 | .8 | 6.3 | 2.3 |
| 669 | 10/11/77 | 34 | 6.1 | .6 | 6.1 | .8 | 6.1 | .0 | 6.1 | .5 | 6.1 | 2.0 |
| 670 | 10/07/77 | 34 | 5.9 | .9 | 5.9 | 1.0 | 5.9 | 1.0 | 5.9 | 1.2 | 5.9 | 1.7 |
| 671 | 10/26/77 | 34 | 5.3 | .0 | 5.3 | .7 | 5.3 | .8 | 5.3 | .6 | 5.3 | 1.4 |
| 672 | 10/12/77 | 34 | 5.0 | 1.2 | 5.0 | .0 | 5.0 | .0 | 5.0 | .6 | 5.0 | .0 |
| 673 | 10/14/77 | 34 | 5.0 | .4 | 5.0 | .8 | 5.0 | .9 | 5.0 | .3 | 5.0 | .0 |
| 674 | 11/02/77 | 34 | 5.0 | .0 | 5.0 | 1.0 | 5.0 | .8 | 5.0 | .7 | 5.0 | 2.2 |
| 675 | 10/24/77 | 34 | 4.7 | 1.4 | 4.7 | .9 | 4.7 | .7 | 4.7 | .6 | 4.7 | 1.8 |
| 676 | 10/25/77 | 34 | 4.7 | .0 | 4.7 | .0 | 4.7 | .0 | 4.7 | .0 | 4.7 | 1.8 |
| 677 | 10/13/77 | 34 | 3.8 | .4 | 3.8 | 1.0 | 3.8 | .6 | 3.8 | .4 | 3.8 | .0 |
| 678 | 11/01/77 | 34 | 2.7 | .0 | 2.7 | .8 | 2.7 | .0 | 2.7 | .6 | 2.7 | 1.5 |
| 679 | 10/19/77 | 34 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 |
| 680 | 10/21/77 | 34 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 |
| 681 | 10/27/77 | 35 | 5.7 | .0 | 5.7 | .0 | 5.7 | .7 | 5.7 | .7 | 5.7 | .0 |
| 682 | 10/28/77 | 35 | 5.1 | .0 | 5.1 | .4 | 5.1 | .4 | 5.1 | .4 | 5.1 | .8 |
| 683 | 10/21/77 | 35 | 5.0 | 1.1 | 5.0 | .5 | 5.0 | .5 | 5.0 | .4 | 5.0 | .0 |
| 684 | 10/20/77 | 35 | 4.4 | .6 | 4.4 | .5 | 4.4 | .0 | 4.4 | .5 | 4.4 | .7 |
| 685 | 10/24/77 | 35 | 3.5 | 1.0 | 3.5 | .7 | 3.5 | .5 | 3.5 | .4 | 3.5 | 1.3 |
| 686 | 10/31/77 | 35 | 3.0 | .0 | 3.0 | .5 | 3.0 | .4 | 3.0 | .4 | 3.0 | 1.1 |
| 687 | 10/26/77 | 35 | 2.9 | .0 | 2.9 | .4 | 2.9 | .4 | 2.9 | .3 | 2.9 | .8 |
| 688 | 10/25/77 | 35 | 2.4 | .0 | 2.4 | .0 | 2.4 | .0 | 2.4 | .0 | 2.4 | .0 |
| 689 | 11/02/77 | 35 | 2.4 | .0 | 2.4 | .6 | 2.4 | .4 | 2.4 | .3 | 2.4 | 1.1 |
| 690 | 11/01/77 | 35 | 1.5 | .0 | 1.5 | .4 | 1.5 | .0 | 1.5 | .3 | 1.5 | .9 |
| 691 | 10/06/77 | 35 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 |
| 692 | 10/07/77 | 35 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 |
| 693 | 10/10/77 | 35 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 |
| 694 | 10/11/77 | 35 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 |
| 695 | 10/12/77 | 35 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 |
| 696 | 10/13/77 | 35 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 |
| 697 | 10/14/77 | 35 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 |
| 698 | 10/17/77 | 35 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 |
| 699 | 10/18/77 | 35 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 |
| 700 | 10/19/77 | 35 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 |
| 701 | 10/10/77 | 36 | 11.4 | 1.2 | 11.4 | 1.6 | 11.4 | 1.7 | 11.4 | .0 | 11.4 | 2.3 |
| 702 | 10/14/77 | 36 | 11.1 | 1.0 | 11.1 | 1.8 | 11.1 | 1.9 | 11.1 | .7 | 11.1 | .0 |
| 703 | 10/17/77 | 36 | 11.1 | .0 | 11.1 | 2.3 | 11.1 | .0 | 11.1 | .0 | 11.1 | .0 |
| 704 | 10/19/77 | 36 | 10.0 | 1.0 | 10.0 | 2.3 | 10.0 | 1.6 | 10.0 | .9 | 10.0 | .0 |
| 705 | 10/18/77 | 36 | 9.3 | 1.3 | 9.3 | 1.3 | 9.3 | 1.7 | 9.3 | 1.6 | 9.3 | .0 |
| 706 | 10/20/77 | 36 | 9.2 | 1.3 | 9.2 | 1.0 | 9.2 | .0 | 9.2 | 1.0 | 9.2 | 1.6 |
| 707 | 10/07/77 | 36 | 9.2 | 1.4 | 9.2 | 1.6 | 9.2 | 1.5 | 9.2 | 1.9 | 9.2 | 2.6 |
| 708 | 10/13/77 | 36 | 8.5 | 1.0 | 8.5 | 2.3 | 8.5 | 1.4 | 8.5 | .9 | 8.5 | .0 |
| 709 | 10/21/77 | 36 | 7.1 | 1.5 | 7.1 | .7 | 7.1 | .7 | 7.1 | .6 | 7.1 | .0 |
| 710 | 10/27/77 | 36 | 6.6 | .0 | 6.6 | .0 | 6.6 | .8 | 6.6 | .9 | 6.6 | .0 |
| 711 | 10/25/77 | 36 | 6.1 | .0 | 6.1 | .0 | 6.1 | .0 | 6.1 | .0 | 6.1 | 2.3 |
| 712 | 10/12/77 | 36 | 4.9 | 1.2 | 4.9 | .0 | 4.9 | .0 | 4.9 | .6 | 4.9 | .0 |
| 713 | 10/31/77 | 36 | 3.6 | .0 | 3.6 | .6 | 3.6 | .6 | 3.5 | .4 | 3.5 | 1.3 |
| 714 | 10/24/77 | 36 | 3.5 | 1.0 | 3.5 | .7 | 3.5 | .5 | 3.5 | .4 | 3.5 | 1.3 |
| 715 | 11/01/77 | 36 | 2.8 | .0 | 2.8 | .8 | 2.8 | .0 | 2.8 | .6 | 2.8 | 1.6 |
| 716 | 11/02/77 | 36 | 2.5 | .0 | 2.5 | .5 | 2.5 | .4 | 2.5 | .4 | 2.5 | 1.1 |
| 717 | 10/28/77 | 36 | 2.4 | .0 | 2.4 | .3 | 2.4 | .3 | 2.4 | .3 | 2.4 | .6 |
| 718 | 10/06/77 | 36 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 |
| 719 | 10/11/77 | 36 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 |
| 720 | 10/26/77 | 36 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 |

# TABLE C-4
## COMPARISON OF EPA STUDY SITE AVERAGE CARBON MONOXIDE CONCENTRATIONS TO EPA STUDY SITE SITE/PERMANENT SITE RATIOS
( SORTED BY DATE AND STUDY SITE AVERAGE )

| RECNO | DATE | SIT | AUC 1/ | R.C.J 2/ | AUC 3/ | R.C.U 4/ | AUC 5/ | R.C.S 6/ | AUC 7/ | R.C.P 8/ | AUC 9/ | R.C.F 10/ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 10/06/77 | 19 | 12.9 | 2.1 | 12.9 | 1.2 | 12.9 | 1.4 | 12.9 | 1.3 | 12.9 | 2.1 |
| 2 | 10/06/77 | 1 | 11.6 | 1.9 | 11.5 | 1.1 | 11.5 | 1.2 | 11.6 | 1.2 | 11.6 | 1.9 |
| 3 | 10/06/77 | 10 | 11.4 | 1.9 | 11.4 | 1.1 | 11.4 | 1.2 | 11.4 | 1.2 | 11.4 | 1.9 |
| 4 | 10/06/77 | 7 | 11.3 | 1.9 | 11.3 | 1.1 | 11.3 | 1.2 | 11.3 | 1.2 | 11.3 | 1.9 |
| 5 | 10/06/77 | 22 | 10.5 | 1.7 | 10.5 | 1.0 | 10.5 | 1.1 | 10.5 | 1.1 | 10.5 | 1.7 |
| 6 | 10/06/77 | 3 | 10.2 | 1.7 | 10.2 | 1.0 | 10.2 | 1.1 | 10.2 | 1.1 | 10.2 | 1.7 |
| 7 | 10/06/77 | 4 | 10.0 | 1.7 | 10.0 | .9 | 10.0 | 1.1 | 10.0 | 1.0 | 10.0 | 1.7 |
| 8 | 10/06/77 | 16 | 10.0 | 1.7 | 10.0 | .9 | 10.0 | 1.1 | 10.0 | 1.0 | 10.0 | 1.7 |
| 9 | 10/06/77 | 9 | 9.2 | 1.5 | 9.2 | .9 | 9.2 | 1.0 | 9.2 | 1.0 | 9.2 | 1.5 |
| 10 | 10/06/77 | 23 | 8.9 | 1.5 | 8.9 | .8 | 8.9 | .9 | 8.9 | .9 | 8.9 | 1.6 |
| 11 | 10/06/77 | 11 | 8.5 | 1.4 | 8.5 | .8 | 8.5 | .9 | 8.5 | .9 | 8.5 | 1.4 |
| 12 | 10/06/77 | 17 | 8.2 | 1.4 | 8.2 | .8 | 8.2 | .9 | 8.2 | .8 | 8.2 | 1.4 |
| 13 | 10/06/77 | 34 | 7.4 | 1.2 | 7.4 | .7 | 7.4 | .8 | 7.4 | .8 | 7.4 | 1.2 |
| 14 | 10/06/77 | 12 | 7.0 | 1.2 | 7.0 | .7 | 7.0 | .7 | 7.0 | .7 | 7.0 | 1.2 |
| 15 | 10/06/77 | 28 | 6.9 | 1.1 | 6.9 | .6 | 6.9 | .7 | 6.9 | .7 | 6.9 | 1.1 |
| 16 | 10/06/77 | 25 | 6.5 | 1.1 | 6.5 | .6 | 6.5 | .7 | 6.5 | .7 | 6.5 | 1.1 |
| 17 | 10/06/77 | 27 | 6.3 | 1.1 | 6.3 | .6 | 6.3 | .7 | 6.3 | .7 | 6.3 | 1.1 |
| 18 | 10/06/77 | 31 | 6.1 | 1.0 | 6.1 | .6 | 6.1 | .6 | 6.1 | .6 | 6.1 | 1.0 |
| 19 | 10/06/77 | 29 | 5.3 | .9 | 5.3 | .5 | 5.3 | .6 | 5.3 | .5 | 5.3 | .9 |
| 20 | 10/06/77 | 26 | 5.1 | .8 | 5.1 | .5 | 5.1 | .6 | 5.1 | .5 | 5.1 | .8 |
| 21 | 10/06/77 | 15 | 5.0 | .8 | 5.0 | .5 | 5.0 | .6 | 5.0 | .5 | 5.0 | .8 |
| 22 | 10/06/77 | 6 | 4.9 | .8 | 4.9 | .5 | 4.9 | .5 | 4.9 | .5 | 4.9 | .8 |
| 23 | 10/06/77 | 18 | 4.9 | .8 | 4.9 | .5 | 4.9 | .5 | 4.9 | .5 | 4.9 | .8 |
| 24 | 10/06/77 | 2 | 4.5 | .8 | 4.5 | .4 | 4.5 | .5 | 4.5 | .5 | 4.5 | .8 |
| 25 | 10/06/77 | 14 | 4.5 | .8 | 4.5 | .4 | 4.5 | .5 | 4.5 | .5 | 4.5 | .8 |
| 26 | 10/06/77 | 32 | 4.3 | .7 | 4.3 | .4 | 4.3 | .5 | 4.3 | .4 | 4.3 | .7 |
| 27 | 10/06/77 | 20 | 4.0 | .7 | 4.0 | .4 | 4.0 | .4 | 4.0 | .4 | 4.0 | .7 |
| 28 | 10/06/77 | 5 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 |
| 29 | 10/06/77 | 8 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 |
| 30 | 10/06/77 | 13 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 |
| 31 | 10/06/77 | 21 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 |
| 32 | 10/06/77 | 24 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 |
| 33 | 10/06/77 | 30 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 |
| 34 | 10/06/77 | 33 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 |
| 35 | 10/06/77 | 35 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 |
| 36 | 10/06/77 | 36 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 |
| 37 | 10/07/77 | 1 | 11.6 | 1.8 | 11.6 | 2.0 | 11.6 | 1.9 | 11.6 | 2.4 | 11.6 | 3.3 |
| 38 | 10/07/77 | 19 | 11.5 | 1.8 | 11.5 | 2.0 | 11.5 | 1.9 | 11.5 | 2.4 | 11.5 | 3.3 |
| 39 | 10/07/77 | 7 | 11.3 | 1.8 | 11.3 | 1.9 | 11.3 | 1.9 | 11.3 | 2.4 | 11.3 | 3.2 |
| 40 | 10/07/77 | 28 | 10.0 | 1.6 | 10.0 | 1.7 | 10.0 | 1.7 | 10.0 | 2.1 | 10.0 | 2.9 |
| 41 | 10/07/77 | 8 | 9.6 | 1.5 | 9.6 | 1.6 | 9.6 | 1.6 | 9.6 | 2.0 | 9.6 | 2.7 |
| 42 | 10/07/77 | 36 | 9.2 | 1.4 | 9.2 | 1.6 | 9.2 | 1.5 | 9.2 | 1.9 | 9.2 | 2.6 |
| 43 | 10/07/77 | 16 | 9.0 | 1.4 | 9.0 | 1.5 | 9.0 | 1.5 | 9.0 | 1.9 | 9.0 | 2.6 |
| 44 | 10/07/77 | 22 | 9.0 | 1.4 | 9.0 | 1.5 | 9.0 | 1.5 | 9.0 | 1.9 | 9.0 | 2.6 |
| 45 | 10/07/77 | 4 | 9.0 | 1.4 | 9.0 | 1.5 | 9.0 | 1.5 | 9.0 | 1.9 | 9.0 | 2.6 |
| 46 | 10/07/77 | 17 | 7.9 | 1.2 | 7.9 | 1.3 | 7.9 | 1.3 | 7.9 | 1.7 | 7.9 | 2.3 |
| 47 | 10/07/77 | 5 | 7.3 | 1.1 | 7.3 | 1.2 | 7.3 | 1.2 | 7.3 | 1.5 | 7.3 | 2.1 |
| 48 | 10/07/77 | 24 | 6.2 | 1.0 | 6.2 | 1.0 | 6.2 | 1.0 | 6.2 | 1.3 | 6.2 | 1.8 |
| 49 | 10/07/77 | 23 | 6.0 | .9 | 6.0 | 1.0 | 6.0 | 1.0 | 6.0 | 1.3 | 6.0 | 1.7 |
| 50 | 10/07/77 | 34 | 5.9 | .9 | 5.9 | 1.0 | 5.9 | 1.0 | 5.9 | 1.2 | 5.9 | 1.7 |
| 51 | 10/07/77 | 25 | 5.5 | .9 | 5.5 | .9 | 5.5 | .9 | 5.5 | 1.2 | 5.5 | 1.6 |
| 52 | 10/07/77 | 29 | 5.5 | .9 | 5.5 | .9 | 5.5 | .9 | 5.5 | 1.1 | 5.5 | 1.6 |
| 53 | 10/07/77 | 31 | 5.0 | .8 | 5.0 | .9 | 5.0 | .8 | 5.0 | 1.1 | 5.0 | 1.4 |
| 54 | 10/07/77 | 27 | 4.7 | .7 | 4.7 | .8 | 4.7 | .8 | 4.7 | 1.0 | 4.7 | 1.3 |
| 55 | 10/07/77 | 9 | 4.5 | .7 | 4.5 | .8 | 4.5 | .8 | 4.5 | .9 | 4.5 | 1.3 |
| 56 | 10/07/77 | 14 | 4.5 | .7 | 4.5 | .8 | 4.5 | .8 | 4.5 | .9 | 4.5 | 1.3 |
| 57 | 10/07/77 | 20 | 4.2 | .7 | 4.2 | .7 | 4.2 | .7 | 4.2 | .9 | 4.2 | 1.2 |
| 58 | 10/07/77 | 18 | 3.9 | .6 | 3.9 | .7 | 3.9 | .6 | 3.9 | .8 | 3.9 | 1.1 |
| 59 | 10/07/77 | 15 | 3.5 | .6 | 3.5 | .6 | 3.5 | .6 | 3.5 | .7 | 3.5 | 1.0 |
| 60 | 10/07/77 | 3 | 3.0 | .6 | 3.0 | .6 | 3.0 | .5 | 3.0 | .6 | 3.0 | .9 |

1-10 SEE FOOTNOTE PAGE

| RECNO | DATE | SIT | AUC | R.C.J | AUC | R.C.U | AUC | R.C.S | AUC | R.C.P | AUC | R.C.F |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 61 | 10/07/77 | 2 | 2.9 | .5 | 2.9 | .5 | 2.9 | .5 | 2.9 | .6 | 2.9 | .8 |
| 62 | 10/07/77 | 32 | 2.9 | .5 | 2.9 | .5 | 2.9 | .5 | 2.9 | .6 | 2.9 | .8 |
| 63 | 10/07/77 | 20 | 2.6 | .4 | 2.6 | .4 | 2.6 | .4 | 2.6 | .5 | 2.6 | .7 |
| 64 | 10/07/77 | 6 | 2.6 | .4 | 2.6 | .4 | 2.6 | .4 | 2.6 | .5 | 2.6 | .7 |
| 65 | 10/07/77 | 33 | 2.0 | .3 | 2.0 | .3 | 2.0 | .3 | 2.0 | .4 | 2.0 | .6 |
| 66 | 10/07/77 | 10 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 |
| 67 | 10/07/77 | 11 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 |
| 68 | 10/07/77 | 12 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 |
| 69 | 10/07/77 | 13 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 |
| 70 | 10/07/77 | 21 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 |
| 71 | 10/07/77 | 30 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 |
| 72 | 10/07/77 | 35 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 |
| 73 | 10/10/77 | 7 | 12.9 | 1.4 | 12.9 | 1.8 | 12.9 | 1.9 | 12.9 | .0 | 12.9 | 2.6 |
| 74 | 10/10/77 | 11 | 11.4 | 1.2 | 11.4 | 1.6 | 11.4 | 1.7 | 11.4 | .0 | 11.4 | 2.3 |
| 75 | 10/10/77 | 36 | 11.4 | 1.2 | 11.4 | 1.6 | 11.4 | 1.7 | 11.4 | .0 | 11.4 | 2.3 |
| 76 | 10/10/77 | 1 | 10.9 | 1.2 | 10.9 | 1.6 | 10.9 | 1.6 | 10.9 | .0 | 10.9 | 2.2 |
| 77 | 10/10/77 | 5 | 10.8 | 1.2 | 10.8 | 1.5 | 10.8 | 1.6 | 10.8 | .0 | 10.8 | 2.2 |
| 78 | 10/10/77 | 19 | 10.8 | 1.2 | 10.8 | 1.5 | 10.8 | 1.6 | 10.8 | .0 | 10.8 | 2.2 |
| 79 | 10/10/77 | 17 | 9.3 | 1.0 | 9.3 | 1.3 | 9.3 | 1.4 | 9.3 | .0 | 9.3 | 1.9 |
| 80 | 10/10/77 | 28 | 9.1 | 1.0 | 9.1 | 1.3 | 9.1 | 1.4 | 9.1 | .0 | 9.1 | 1.9 |
| 81 | 10/10/77 | 22 | 9.0 | 1.0 | 9.0 | 1.3 | 9.0 | 1.4 | 9.0 | .0 | 9.0 | 1.8 |
| 82 | 10/10/77 | 10 | 8.7 | .9 | 8.7 | 1.2 | 8.7 | 1.3 | 8.7 | .0 | 8.7 | 1.8 |
| 83 | 10/10/77 | 8 | 8.2 | .9 | 8.2 | 1.2 | 8.2 | 1.2 | 8.2 | .0 | 8.2 | 1.7 |
| 84 | 10/10/77 | 6 | 7.4 | .8 | 7.4 | 1.1 | 7.4 | 1.1 | 7.4 | .0 | 7.4 | 1.5 |
| 85 | 10/10/77 | 30 | 7.2 | .8 | 7.2 | 1.0 | 7.2 | 1.1 | 7.2 | .0 | 7.2 | 1.5 |
| 86 | 10/10/77 | 25 | 6.9 | .8 | 6.9 | 1.0 | 6.9 | 1.0 | 6.9 | .0 | 6.9 | 1.4 |
| 87 | 10/10/77 | 23 | 6.9 | .8 | 6.9 | 1.0 | 6.9 | 1.0 | 6.9 | .0 | 6.9 | 1.4 |
| 88 | 10/10/77 | 4 | 6.8 | .7 | 6.8 | 1.0 | 6.8 | 1.0 | 6.8 | .0 | 6.8 | 1.4 |
| 89 | 10/10/77 | 15 | 6.8 | .7 | 6.8 | 1.0 | 6.8 | 1.0 | 6.8 | .0 | 6.8 | 1.4 |
| 90 | 10/10/77 | 34 | 6.6 | .7 | 6.6 | .9 | 6.6 | 1.0 | 6.6 | .0 | 6.6 | 1.3 |
| 91 | 10/10/77 | 29 | 6.3 | .7 | 6.3 | .9 | 6.3 | .9 | 6.3 | .0 | 6.3 | 1.3 |
| 92 | 10/10/77 | 24 | 5.6 | .6 | 5.6 | .8 | 5.6 | .8 | 5.6 | .0 | 5.6 | 1.1 |
| 93 | 10/10/77 | 32 | 5.4 | .6 | 5.4 | .8 | 5.4 | .8 | 5.4 | .0 | 5.4 | 1.1 |
| 94 | 10/10/77 | 12 | 6.2 | .6 | 5.2 | .7 | 5.2 | .8 | 5.2 | .0 | 5.2 | 1.1 |
| 95 | 10/10/77 | 27 | 4.9 | .5 | 4.9 | .7 | 4.9 | .7 | 4.9 | .0 | 4.9 | 1.0 |
| 96 | 10/10/77 | 18 | 4.8 | .5 | 4.8 | .7 | 4.8 | .7 | 4.8 | .0 | 4.8 | 1.0 |
| 97 | 10/10/77 | 2 | 4.6 | .5 | 4.6 | .7 | 4.6 | .7 | 4.6 | .0 | 4.6 | .9 |
| 98 | 10/10/77 | 33 | 4.6 | .6 | 4.6 | .7 | 4.6 | .7 | 4.6 | .0 | 4.6 | .9 |
| 99 | 10/10/77 | 14 | 4.5 | .5 | 4.5 | .6 | 4.5 | .7 | 4.5 | .0 | 4.5 | .9 |
| 100 | 10/10/77 | 3 | 4.2 | .5 | 4.2 | .6 | 4.2 | .6 | 4.2 | .0 | 4.2 | .9 |
| 101 | 10/10/77 | 20 | 3.7 | .4 | 3.7 | .5 | 3.7 | .6 | 3.7 | .0 | 3.7 | .8 |
| 102 | 10/10/77 | 9 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 |
| 103 | 10/10/77 | 13 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 |
| 104 | 10/10/77 | 16 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 |
| 105 | 10/10/77 | 21 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 |
| 106 | 10/10/77 | 26 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 |
| 107 | 10/10/77 | 31 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 |
| 108 | 10/10/77 | 35 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 |
| 109 | 10/11/77 | 9 | 11.2 | 1.1 | 11.2 | 1.4 | 11.2 | 1.5 | 11.2 | .8 | 11.2 | 3.7 |
| 110 | 10/11/77 | 19 | 10.4 | 1.0 | 10.4 | 1.3 | 10.4 | 1.4 | 10.4 | .8 | 10.4 | 3.5 |
| 111 | 10/11/77 | 7 | 10.2 | 1.0 | 10.2 | 1.3 | 10.2 | 1.4 | 10.2 | .8 | 10.2 | 3.4 |
| 112 | 10/11/77 | 17 | 9.6 | 1.0 | 9.6 | 1.2 | 9.6 | 1.3 | 9.6 | .7 | 9.6 | 3.2 |
| 113 | 10/11/77 | 28 | 9.1 | .9 | 9.1 | 1.2 | 9.1 | 1.2 | 9.1 | .7 | 9.1 | 3.0 |
| 114 | 10/11/77 | 1 | 8.6 | .9 | 8.6 | 1.1 | 8.6 | 1.2 | 8.6 | .6 | 8.6 | 2.9 |
| 115 | 10/11/77 | 15 | 8.3 | .8 | 8.3 | 1.1 | 8.3 | 1.1 | 8.3 | .6 | 8.3 | 2.7 |
| 116 | 10/11/77 | 18 | 8.0 | .8 | 8.0 | 1.0 | 8.0 | 1.1 | 8.0 | .6 | 8.0 | 2.7 |
| 117 | 10/11/77 | 26 | 8.0 | .8 | 8.0 | 1.0 | 8.0 | 1.1 | 8.0 | .6 | 8.0 | 2.6 |
| 118 | 10/11/77 | 6 | 7.3 | .7 | 7.3 | .9 | 7.3 | 1.0 | 7.3 | .5 | 7.3 | 2.4 |
| 119 | 10/11/77 | 26 | 7.1 | .7 | 7.1 | .9 | 7.1 | 1.0 | 7.1 | .6 | 7.1 | 2.4 |
| 120 | 10/11/77 | 30 | 7.0 | .7 | 7.0 | .9 | 7.0 | .9 | 7.0 | .5 | 7.0 | 2.3 |

| RECNO | DATE | SIT | AUC↴ | R.C.J | AUC↴ | R.C.U | AUC↴ | R.C.S | AUC↴ | R.C.P | AUC↴ | R.C.F |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 121 | 10/11/77 | 4 | 6.9 | .7 | 6.9 | .9 | 6.9 | .9 | 6.9 | .5 | 6.9 | 2.3 |
| 122 | 10/11/77 | 8 | 6.8 | .7 | 6.8 | .9 | 6.8 | .9 | 6.8 | .5 | 6.8 | 2.3 |
| 123 | 10/11/77 | 22 | 6.4 | .6 | 6.4 | .8 | 6.4 | .9 | 6.4 | .5 | 6.4 | 2.1 |
| 124 | 10/11/77 | 10 | 6.3 | .6 | 6.3 | .8 | 6.3 | .9 | 6.3 | .5 | 6.3 | 2.1 |
| 125 | 10/11/77 | 11 | 6.1 | .6 | 6.1 | .8 | 6.1 | .8 | 6.1 | .5 | 6.1 | 2.0 |
| 126 | 10/11/77 | 34 | 6.1 | .6 | 6.1 | .8 | 6.1 | .8 | 6.1 | .5 | 6.1 | 2.0 |
| 127 | 10/11/77 | 29 | 5.9 | .6 | 5.9 | .8 | 5.9 | .8 | 5.9 | .4 | 5.9 | 2.0 |
| 128 | 10/11/77 | 23 | 5.2 | .5 | 5.2 | .7 | 5.2 | .7 | 5.2 | .4 | 5.2 | 1.7 |
| 129 | 10/11/77 | 14 | 5.2 | .5 | 5.2 | .7 | 5.2 | .7 | 5.2 | .4 | 5.2 | 1.7 |
| 130 | 10/11/77 | 18 | 5.2 | .5 | 5.2 | .7 | 5.2 | .7 | 5.2 | .4 | 5.2 | 1.7 |
| 131 | 10/11/77 | 24 | 5.1 | .5 | 5.1 | .7 | 5.1 | .7 | 5.1 | .4 | 5.1 | 1.7 |
| 132 | 10/11/77 | 27 | 4.6 | .5 | 4.6 | .6 | 4.6 | .6 | 4.6 | .3 | 4.6 | 1.5 |
| 133 | 10/11/77 | 12 | 4.6 | .5 | 4.6 | .6 | 4.6 | .6 | 4.6 | .3 | 4.6 | 1.5 |
| 134 | 10/11/77 | 6 | 4.5 | .5 | 4.5 | .6 | 4.5 | .6 | 4.5 | .3 | 4.5 | 1.5 |
| 135 | 10/11/77 | 3 | 3.7 | .4 | 3.7 | .5 | 3.7 | .5 | 3.7 | .3 | 3.7 | 1.2 |
| 136 | 10/11/77 | 2 | 3.4 | .3 | 3.4 | .4 | 3.4 | .5 | 3.4 | .3 | 3.4 | 1.1 |
| 137 | 10/11/77 | 32 | 3.1 | .3 | 3.1 | .4 | 3.1 | .4 | 3.1 | .2 | 3.1 | 1.0 |
| 138 | 10/11/77 | 33 | 2.4 | .2 | 2.4 | .3 | 2.4 | .3 | 2.4 | .2 | 2.4 | .8 |
| 139 | 10/11/77 | 13 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 |
| 140 | 10/11/77 | 20 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 |
| 141 | 10/11/77 | 21 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 |
| 142 | 10/11/77 | 31 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 |
| 143 | 10/11/77 | 35 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 |
| 144 | 10/11/77 | 36 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 |
| 145 | 10/12/77 | 19 | 13.5 | 3.3 | 13.5 | .0 | 13.5 | .0 | 13.5 | 1.6 | 13.5 | .0 |
| 146 | 10/12/77 | 10 | 12.4 | 3.0 | 12.4 | .0 | 12.4 | .0 | 12.4 | 1.5 | 12.4 | .0 |
| 147 | 10/12/77 | 22 | 10.7 | 2.6 | 10.7 | .0 | 10.7 | .0 | 10.7 | 1.3 | 10.7 | .0 |
| 148 | 10/12/77 | 23 | 9.9 | 2.4 | 9.9 | .0 | 9.9 | .0 | 9.9 | 1.2 | 9.9 | .0 |
| 149 | 10/12/77 | 17 | 8.7 | 2.1 | 8.7 | .0 | 8.7 | .0 | 8.7 | 1.0 | 8.7 | .0 |
| 150 | 10/12/77 | 9 | 8.4 | 2.0 | 8.4 | .0 | 8.4 | .0 | 8.4 | 1.0 | 8.4 | .0 |
| 151 | 10/12/77 | 24 | 7.8 | 1.9 | 7.8 | .0 | 7.8 | .0 | 7.8 | .9 | 7.8 | .0 |
| 152 | 10/12/77 | 4 | 7.5 | 1.8 | 7.5 | .0 | 7.5 | .0 | 7.5 | .9 | 7.5 | .0 |
| 153 | 10/12/77 | 16 | 7.1 | 1.7 | 7.1 | .0 | 7.1 | .0 | 7.1 | .8 | 7.1 | .0 |
| 154 | 10/12/77 | 11 | 7.0 | 1.7 | 7.0 | .0 | 7.0 | .0 | 7.0 | .8 | 7.0 | .0 |
| 155 | 10/12/77 | 27 | 6.5 | 1.6 | 6.5 | .0 | 6.5 | .0 | 6.5 | .8 | 6.5 | .0 |
| 156 | 10/12/77 | 3 | 6.3 | 1.5 | 6.3 | .0 | 6.3 | .0 | 6.3 | .7 | 6.3 | .0 |
| 157 | 10/12/77 | 28 | 5.7 | 1.4 | 5.7 | .0 | 5.7 | .0 | 5.7 | .7 | 5.7 | .0 |
| 158 | 10/12/77 | 25 | 5.6 | 1.4 | 5.6 | .0 | 5.6 | .0 | 5.6 | .7 | 5.6 | .0 |
| 159 | 10/12/77 | 12 | 5.1 | 1.2 | 5.1 | .0 | 5.1 | .0 | 5.1 | .6 | 5.1 | .0 |
| 160 | 10/12/77 | 31 | 5.0 | 1.2 | 5.0 | .0 | 5.0 | .0 | 5.0 | .6 | 5.0 | .0 |
| 161 | 10/12/77 | 34 | 5.0 | 1.2 | 5.0 | .0 | 5.0 | .0 | 5.0 | .6 | 5.0 | .0 |
| 162 | 10/12/77 | 15 | 5.0 | 1.2 | 5.0 | .0 | 5.0 | .0 | 5.0 | .6 | 5.0 | .0 |
| 163 | 10/12/77 | 36 | 4.9 | 1.2 | 4.9 | .0 | 4.9 | .0 | 4.9 | .6 | 4.9 | .0 |
| 164 | 10/12/77 | 14 | 4.5 | 1.1 | 4.5 | .0 | 4.5 | .0 | 4.5 | .5 | 4.5 | .0 |
| 165 | 10/12/77 | 29 | 4.5 | 1.1 | 4.5 | .0 | 4.5 | .0 | 4.5 | .5 | 4.5 | .0 |
| 166 | 10/12/77 | 13 | 4.2 | 1.0 | 4.2 | .0 | 4.2 | .0 | 4.2 | .5 | 4.2 | .0 |
| 167 | 10/12/77 | 26 | 4.2 | 1.0 | 4.2 | .0 | 4.2 | .0 | 4.2 | .5 | 4.2 | .0 |
| 168 | 10/12/77 | 2 | 3.9 | .9 | 3.9 | .0 | 3.9 | .0 | 3.9 | .5 | 3.9 | .0 |
| 169 | 10/12/77 | 6 | 3.9 | .9 | 3.9 | .0 | 3.9 | .0 | 3.9 | .5 | 3.9 | .0 |
| 170 | 10/12/77 | 20 | 3.9 | .9 | 3.9 | .0 | 3.9 | .0 | 3.9 | .5 | 3.9 | .0 |
| 171 | 10/12/77 | 18 | 3.7 | .9 | 3.7 | .0 | 3.7 | .0 | 3.7 | .4 | 3.7 | .0 |
| 172 | 10/12/77 | 32 | 3.7 | .9 | 3.7 | .0 | 3.7 | .0 | 3.7 | .4 | 3.7 | .0 |
| 173 | 10/12/77 | 30 | 3.3 | .8 | 3.3 | .0 | 3.3 | .0 | 3.3 | .4 | 3.3 | .0 |
| 174 | 10/12/77 | 1 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 |
| 175 | 10/12/77 | 5 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 |
| 176 | 10/12/77 | 7 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 |
| 177 | 10/12/77 | 8 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 |
| 178 | 10/12/77 | 21 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 |
| 179 | 10/12/77 | 33 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 |
| 180 | 10/12/77 | 36 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 |

| RECNO | DATE | SIT | AVG ↓ | R.C.J | AVG ↓ | R.C.U | AVG ↓ | R.C.S | AVG ↓ | R.C.P | AVG ↓ | R.C.F |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 181 | 10/13/77 | 19 | 10.2 | 1.1 | 10.2 | 2.7 | 10.2 | 1.7 | 10.2 | 1.0 | 10.2 | .0 |
| 182 | 10/13/77 | 9 | 8.6 | 1.0 | 8.6 | 2.3 | 8.6 | 1.4 | 8.6 | .9 | 8.6 | .0 |
| 183 | 10/13/77 | 28 | 8.5 | 1.0 | 8.5 | 2.3 | 8.5 | 1.4 | 8.5 | .9 | 8.5 | .0 |
| 184 | 10/13/77 | 36 | 8.5 | 1.0 | 8.5 | 2.3 | 8.5 | 1.4 | 8.5 | .9 | 8.5 | .0 |
| 185 | 10/13/77 | 17 | 7.7 | .9 | 7.7 | 2.1 | 7.7 | 1.3 | 7.7 | .8 | 7.7 | .0 |
| 186 | 10/13/77 | 6 | 7.4 | .8 | 7.4 | 2.0 | 7.4 | 1.2 | 7.4 | .7 | 7.4 | .0 |
| 187 | 10/13/77 | 31 | 6.4 | .7 | 6.4 | 1.7 | 6.4 | 1.1 | 6.4 | .6 | 6.4 | .0 |
| 188 | 10/13/77 | 30 | 6.2 | .7 | 6.2 | 1.7 | 6.2 | 1.0 | 6.2 | .6 | 6.2 | .0 |
| 189 | 10/13/77 | 7 | 5.8 | .7 | 5.8 | 1.5 | 5.8 | 1.0 | 5.8 | .6 | 5.8 | .0 |
| 190 | 10/13/77 | 26 | 5.6 | .6 | 5.6 | 1.5 | 5.6 | .9 | 5.6 | .6 | 5.6 | .0 |
| 191 | 10/13/77 | 18 | 5.5 | .6 | 5.5 | 1.5 | 5.5 | .9 | 5.5 | .6 | 5.5 | .0 |
| 192 | 10/13/77 | 1 | 5.2 | .6 | 5.2 | 1.4 | 5.2 | .8 | 5.2 | .5 | 5.2 | .0 |
| 193 | 10/13/77 | 29 | 5.0 | .6 | 5.0 | 1.3 | 5.0 | .8 | 5.0 | .5 | 5.0 | .0 |
| 194 | 10/13/77 | 25 | 4.7 | .5 | 4.7 | 1.3 | 4.7 | .8 | 4.7 | .5 | 4.7 | .0 |
| 195 | 10/13/77 | 15 | 4.6 | .5 | 4.6 | 1.2 | 4.6 | .8 | 4.6 | .5 | 4.6 | .0 |
| 196 | 10/13/77 | 4 | 4.6 | .5 | 4.6 | 1.2 | 4.6 | .8 | 4.6 | .5 | 4.6 | .0 |
| 197 | 10/13/77 | 10 | 4.5 | .5 | 4.5 | 1.2 | 4.5 | .8 | 4.5 | .5 | 4.5 | .0 |
| 198 | 10/13/77 | 22 | 4.5 | .5 | 4.5 | 1.2 | 4.5 | .7 | 4.5 | .5 | 4.5 | .0 |
| 199 | 10/13/77 | 23 | 4.5 | .5 | 4.5 | 1.2 | 4.5 | .7 | 4.5 | .5 | 4.5 | .0 |
| 200 | 10/13/77 | 8 | 4.3 | .5 | 4.3 | 1.1 | 4.3 | .7 | 4.3 | .4 | 4.3 | .0 |
| 201 | 10/13/77 | 16 | 4.2 | .5 | 4.2 | 1.1 | 4.2 | .7 | 4.2 | .4 | 4.2 | .0 |
| 202 | 10/13/77 | 5 | 4.2 | .5 | 4.2 | 1.1 | 4.2 | .7 | 4.2 | .4 | 4.2 | .0 |
| 203 | 10/13/77 | 3 | 4.0 | .5 | 4.0 | 1.1 | 4.0 | .7 | 4.0 | .4 | 4.0 | .0 |
| 204 | 10/13/77 | 12 | 4.0 | .4 | 4.0 | 1.1 | 4.0 | .7 | 4.0 | .4 | 4.0 | .0 |
| 205 | 10/13/77 | 34 | 3.8 | .4 | 3.8 | 1.0 | 3.8 | .6 | 3.8 | .4 | 3.8 | .0 |
| 206 | 10/13/77 | 27 | 3.7 | .4 | 3.7 | 1.0 | 3.7 | .6 | 3.7 | .4 | 3.7 | .0 |
| 207 | 10/13/77 | 2 | 3.4 | .4 | 3.4 | .9 | 3.4 | .6 | 3.4 | .3 | 3.4 | .0 |
| 208 | 10/13/77 | 24 | 3.3 | .4 | 3.3 | .9 | 3.3 | .5 | 3.3 | .3 | 3.3 | .0 |
| 209 | 10/13/77 | 11 | 3.1 | .3 | 3.1 | .8 | 3.1 | .5 | 3.1 | .3 | 3.1 | .0 |
| 210 | 10/13/77 | 33 | 2.5 | .3 | 2.5 | .7 | 2.5 | .4 | 2.5 | .3 | 2.5 | .0 |
| 211 | 10/13/77 | 20 | 2.4 | .3 | 2.4 | .6 | 2.4 | .4 | 2.4 | .2 | 2.4 | .0 |
| 212 | 10/13/77 | 32 | 2.1 | .2 | 2.1 | .6 | 2.1 | .4 | 2.1 | .2 | 2.1 | .0 |
| 213 | 10/13/77 | 13 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 |
| 214 | 10/13/77 | 14 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 |
| 215 | 10/13/77 | 21 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 |
| 216 | 10/13/77 | 35 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 |
| 217 | 10/14/77 | 19 | 12.8 | 1.1 | 12.8 | 2.0 | 12.8 | 2.2 | 12.8 | .8 | 12.8 | .0 |
| 218 | 10/14/77 | 9 | 12.4 | 1.1 | 12.4 | 2.0 | 12.4 | 2.1 | 12.4 | .8 | 12.4 | .0 |
| 219 | 10/14/77 | 36 | 11.1 | 1.0 | 11.1 | 1.8 | 11.1 | 1.9 | 11.1 | .7 | 11.1 | .0 |
| 220 | 10/14/77 | 17 | 10.5 | .9 | 10.5 | 1.7 | 10.5 | 1.8 | 10.5 | .7 | 10.5 | .0 |
| 221 | 10/14/77 | 28 | 10.2 | .9 | 10.2 | 1.6 | 10.2 | 1.7 | 10.2 | .6 | 10.2 | .0 |
| 222 | 10/14/77 | 5 | 9.2 | .8 | 9.2 | 1.5 | 9.2 | 1.6 | 9.2 | .6 | 9.2 | .0 |
| 223 | 10/14/77 | 26 | 8.6 | .8 | 8.6 | 1.4 | 8.6 | 1.5 | 8.6 | .5 | 8.6 | .0 |
| 224 | 10/14/77 | 30 | 7.9 | .7 | 7.9 | 1.3 | 7.9 | 1.3 | 7.9 | .5 | 7.9 | .0 |
| 225 | 10/14/77 | 7 | 7.1 | .6 | 7.1 | 1.1 | 7.1 | 1.2 | 7.1 | .5 | 7.1 | .0 |
| 226 | 10/14/77 | 4 | 7.1 | .6 | 7.1 | 1.1 | 7.1 | 1.2 | 7.1 | .4 | 7.1 | .0 |
| 227 | 10/14/77 | 13 | 7.0 | .6 | 7.0 | 1.1 | 7.0 | 1.2 | 7.0 | .4 | 7.0 | .0 |
| 228 | 10/14/77 | 1 | 6.9 | .6 | 6.9 | 1.1 | 6.9 | 1.2 | 6.9 | .4 | 6.9 | .0 |
| 229 | 10/14/77 | 31 | 6.8 | .6 | 6.8 | 1.1 | 6.8 | 1.2 | 6.8 | .4 | 6.8 | .0 |
| 230 | 10/14/77 | 16 | 6.5 | .6 | 6.5 | 1.0 | 6.5 | 1.1 | 6.5 | .4 | 6.5 | .0 |
| 231 | 10/14/77 | 25 | 6.5 | .6 | 6.5 | 1.0 | 6.5 | 1.1 | 6.5 | .4 | 6.5 | .0 |
| 232 | 10/14/77 | 6 | 5.8 | .5 | 5.8 | .9 | 5.8 | 1.0 | 5.8 | .4 | 5.8 | .0 |
| 233 | 10/14/77 | 14 | 5.7 | .5 | 5.7 | .9 | 5.7 | 1.0 | 5.7 | .4 | 5.7 | .0 |
| 234 | 10/14/77 | 22 | 5.6 | .5 | 5.6 | .9 | 5.6 | 1.0 | 5.6 | .4 | 5.6 | .0 |
| 235 | 10/14/77 | 15 | 5.5 | .5 | 5.5 | .9 | 5.5 | .9 | 5.5 | .3 | 5.5 | .0 |
| 236 | 10/14/77 | 20 | 5.5 | .5 | 5.5 | .9 | 5.5 | .9 | 5.5 | .3 | 5.5 | .0 |
| 237 | 10/14/77 | 18 | 5.4 | .5 | 5.4 | .9 | 5.4 | .9 | 5.4 | .3 | 5.4 | .0 |
| 238 | 10/14/77 | 10 | 5.3 | .5 | 5.3 | .8 | 5.3 | .9 | 5.3 | .3 | 5.3 | .0 |
| 239 | 10/14/77 | 27 | 5.0 | .4 | 5.0 | .8 | 5.0 | .9 | 5.0 | .3 | 5.0 | .0 |
| 240 | 10/14/77 | 34 | 5.0 | .4 | 5.0 | .8 | 5.0 | .9 | 5.0 | .3 | 5.0 | .0 |

| RECNO | DATE | BIT | AUC → | R.C.J | AUC → | R.C.U | AUC → | R.C.S | AUC → | R.C.P | AUC → | R.C.F |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 241 | 10/14/77 | 83 | 4.9 | .4 | 4.9 | .8 | 4.9 | .8 | 4.9 | .3 | 4.9 | .0 |
| 242 | 10/14/77 | 11 | 4.7 | .4 | 4.7 | .8 | 4.7 | .8 | 4.7 | .3 | 4.7 | .0 |
| 243 | 10/14/77 | 2 | 4.1 | .4 | 4.1 | .7 | 4.1 | .7 | 4.1 | .3 | 4.1 | .0 |
| 244 | 10/14/77 | 3 | 4.1 | .4 | 4.1 | .7 | 4.1 | .7 | 4.1 | .3 | 4.1 | .0 |
| 245 | 10/14/77 | 20 | 4.0 | .4 | 4.0 | .6 | 4.0 | .7 | 4.0 | .3 | 4.0 | .0 |
| 246 | 10/14/77 | 33 | 4.0 | .4 | 4.0 | .6 | 4.0 | .7 | 4.0 | .3 | 4.0 | .0 |
| 247 | 10/14/77 | 18 | 3.7 | .3 | 3.7 | .6 | 3.7 | .6 | 3.7 | .2 | 3.7 | .0 |
| 248 | 10/14/77 | 24 | 3.5 | .3 | 3.5 | .6 | 3.5 | .6 | 3.5 | .2 | 3.5 | .0 |
| 249 | 10/14/77 | 32 | 3.1 | .3 | 3.1 | .5 | 3.1 | .5 | 3.1 | .2 | 3.1 | .0 |
| 250 | 10/14/77 | 8 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 |
| 251 | 10/14/77 | 21 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 |
| 252 | 10/14/77 | 35 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 |
| 253 | 10/17/77 | 36 | 11.1 | .0 | 11.1 | 2.3 | 11.1 | .0 | 11.1 | .0 | 11.1 | .0 |
| 254 | 10/17/77 | 19 | 9.1 | .0 | 9.1 | 1.9 | 9.1 | .0 | 9.1 | .0 | 9.1 | .0 |
| 255 | 10/17/77 | 7 | 9.0 | .0 | 9.0 | 1.8 | 9.0 | .0 | 9.0 | .0 | 9.0 | .0 |
| 256 | 10/17/77 | 15 | 9.0 | .0 | 9.0 | 1.8 | 9.0 | .0 | 9.0 | .0 | 9.0 | .0 |
| 257 | 10/17/77 | 23 | 8.9 | .0 | 8.9 | 1.8 | 8.9 | .0 | 8.9 | .0 | 8.9 | .0 |
| 258 | 10/17/77 | 1 | 8.5 | .0 | 8.5 | 1.7 | 8.5 | .0 | 8.5 | .0 | 8.5 | .0 |
| 259 | 10/17/77 | 28 | 8.5 | .0 | 8.5 | 1.7 | 8.5 | .0 | 8.5 | .0 | 8.5 | .0 |
| 260 | 10/17/77 | 8 | 8.1 | .0 | 8.1 | 1.7 | 8.1 | .0 | 8.1 | .0 | 8.1 | .0 |
| 261 | 10/17/77 | 9 | 7.4 | .0 | 7.4 | 1.5 | 7.4 | .0 | 7.4 | .0 | 7.4 | .0 |
| 262 | 10/17/77 | 16 | 6.9 | .0 | 6.9 | 1.4 | 6.9 | .0 | 6.9 | .0 | 6.9 | .0 |
| 263 | 10/17/77 | 25 | 6.7 | .0 | 6.7 | 1.4 | 6.7 | .0 | 6.7 | .0 | 6.7 | .0 |
| 264 | 10/17/77 | 12 | 6.6 | .0 | 6.6 | 1.3 | 6.6 | .0 | 6.6 | .0 | 6.6 | .0 |
| 265 | 10/17/77 | 34 | 6.6 | .0 | 6.6 | 1.3 | 6.6 | .0 | 6.6 | .0 | 6.6 | .0 |
| 266 | 10/17/77 | 29 | 6.4 | .0 | 6.4 | 1.3 | 6.4 | .0 | 6.4 | .0 | 6.4 | .0 |
| 267 | 10/17/77 | 22 | 6.1 | .0 | 6.1 | 1.3 | 6.1 | .0 | 6.1 | .0 | 6.1 | .0 |
| 268 | 10/17/77 | 30 | 6.0 | .0 | 6.0 | 1.2 | 6.0 | .0 | 6.0 | .0 | 6.0 | .0 |
| 269 | 10/17/77 | 11 | 5.9 | .0 | 5.9 | 1.2 | 5.9 | .0 | 5.9 | .0 | 5.9 | .0 |
| 270 | 10/17/77 | 26 | 5.9 | .0 | 5.9 | 1.2 | 5.9 | .0 | 5.9 | .0 | 5.9 | .0 |
| 271 | 10/17/77 | 5 | 5.7 | .0 | 5.7 | 1.2 | 5.7 | .0 | 5.7 | .0 | 5.7 | .0 |
| 272 | 10/17/77 | 10 | 5.6 | .0 | 5.6 | 1.1 | 5.6 | .0 | 5.6 | .0 | 5.6 | .0 |
| 273 | 10/17/77 | 24 | 5.6 | .0 | 5.6 | 1.1 | 5.6 | .0 | 5.6 | .0 | 5.6 | .0 |
| 274 | 10/17/77 | 17 | 5.3 | .0 | 5.3 | 1.1 | 5.3 | .0 | 5.3 | .0 | 5.3 | .0 |
| 275 | 10/17/77 | 13 | 5.1 | .0 | 5.1 | 1.0 | 5.1 | .0 | 5.1 | .0 | 5.1 | .0 |
| 276 | 10/17/77 | 31 | 5.0 | .0 | 5.0 | 1.0 | 5.0 | .0 | 5.0 | .0 | 5.0 | .0 |
| 277 | 10/17/77 | 3 | 4.8 | .0 | 4.8 | 1.0 | 4.8 | .0 | 4.8 | .0 | 4.8 | .0 |
| 278 | 10/17/77 | 6 | 4.6 | .0 | 4.6 | .9 | 4.6 | .0 | 4.6 | .0 | 4.6 | .0 |
| 279 | 10/17/77 | 33 | 4.2 | .0 | 4.2 | .9 | 4.2 | .0 | 4.2 | .0 | 4.2 | .0 |
| 280 | 10/17/77 | 2 | 4.0 | .0 | 4.0 | .8 | 4.0 | .0 | 4.0 | .0 | 4.0 | .0 |
| 281 | 10/17/77 | 14 | 3.5 | .0 | 3.5 | .7 | 3.5 | .0 | 3.5 | .0 | 3.5 | .0 |
| 282 | 10/17/77 | 20 | 3.5 | .0 | 3.5 | .7 | 3.5 | .0 | 3.5 | .0 | 3.5 | .0 |
| 283 | 10/17/77 | 32 | 3.0 | .0 | 3.0 | .6 | 3.0 | .0 | 3.0 | .0 | 3.0 | .0 |
| 284 | 10/17/77 | 4 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 |
| 285 | 10/17/77 | 18 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 |
| 286 | 10/17/77 | 21 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 |
| 287 | 10/17/77 | 27 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 |
| 288 | 10/17/77 | 35 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 |
| 289 | 10/18/77 | 7 | 10.2 | 1.5 | 10.2 | 1.4 | 10.2 | 1.8 | 10.2 | 1.7 | 10.2 | .0 |
| 290 | 10/18/77 | 1 | 9.7 | 1.4 | 9.7 | 1.3 | 9.7 | 1.7 | 9.7 | 1.6 | 9.7 | .0 |
| 291 | 10/18/77 | 18 | 9.7 | 1.4 | 9.7 | 1.3 | 9.7 | 1.7 | 9.7 | 1.6 | 9.7 | .0 |
| 292 | 10/18/77 | 10 | 9.4 | 1.3 | 9.4 | 1.3 | 9.4 | 1.7 | 9.4 | 1.6 | 9.4 | .0 |
| 293 | 10/18/77 | 19 | 9.4 | 1.3 | 9.4 | 1.3 | 9.4 | 1.7 | 9.4 | 1.6 | 9.4 | .0 |
| 294 | 10/18/77 | 30 | 9.3 | 1.3 | 9.3 | 1.3 | 9.3 | 1.7 | 9.3 | 1.6 | 9.3 | .0 |
| 295 | 10/18/77 | 11 | 9.2 | 1.3 | 9.2 | 1.3 | 9.2 | 1.6 | 9.2 | 1.5 | 9.2 | .0 |
| 296 | 10/18/77 | 17 | 9.2 | 1.3 | 9.2 | 1.3 | 9.2 | 1.6 | 9.2 | 1.5 | 9.2 | .0 |
| 297 | 10/18/77 | 28 | 9.0 | 1.3 | 9.0 | 1.2 | 9.0 | 1.6 | 9.0 | 1.5 | 9.0 | .0 |
| 298 | 10/18/77 | 22 | 8.7 | 1.2 | 8.7 | 1.2 | 8.7 | 1.5 | 8.7 | 1.4 | 8.7 | .0 |
| 299 | 10/18/77 | 4 | 8.6 | 1.2 | 8.6 | 1.2 | 8.6 | 1.6 | 8.6 | 1.4 | 8.6 | .0 |
| 300 | 10/18/77 | 6 | 8.5 | 1.2 | 8.5 | 1.2 | 8.5 | 1.6 | 8.5 | 1.4 | 8.5 | .0 |

| RECNO | DATE | SIT | AUC ——↓ | R.C.J | AUC ——↓ | R.C.U | AUC ——↓ | R.C.S | AUC ——↓ | R.C.P | AUC ——↓ | R.C.F |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 301 | 10/18/77 | 8 | 8.8 | 1.2 | 8.8 | 1.1 | 8.8 | 1.5 | 8.8 | 1.4 | 8.8 | .0 |
| 302 | 10/18/77 | 34 | 8.0 | 1.1 | 8.0 | 1.1 | 8.0 | 1.4 | 8.0 | 1.3 | 8.0 | .0 |
| 303 | 10/18/77 | 25 | 7.5 | 1.1 | 7.5 | 1.0 | 7.5 | 1.3 | 7.5 | 1.2 | 7.5 | .0 |
| 304 | 10/18/77 | 29 | 6.9 | 1.0 | 6.9 | 1.0 | 6.9 | 1.2 | 6.9 | 1.1 | 6.9 | .0 |
| 305 | 10/18/77 | 30 | 6.5 | .9 | 6.5 | .9 | 6.5 | 1.2 | 6.5 | 1.1 | 6.5 | .0 |
| 306 | 10/18/77 | 13 | 6.4 | .9 | 6.4 | .9 | 6.4 | 1.1 | 6.4 | 1.1 | 6.4 | .0 |
| 307 | 10/18/77 | 23 | 6.3 | .9 | 6.3 | .9 | 6.3 | 1.1 | 6.3 | 1.1 | 6.3 | .0 |
| 308 | 10/18/77 | 12 | 6.1 | .8 | 6.1 | .8 | 6.1 | 1.1 | 6.1 | 1.0 | 6.1 | .0 |
| 309 | 10/18/77 | 31 | 5.8 | .8 | 5.8 | .8 | 5.8 | 1.0 | 5.8 | 1.0 | 5.8 | .0 |
| 310 | 10/18/77 | 9 | 5.6 | .8 | 5.6 | .8 | 5.6 | 1.0 | 5.6 | .9 | 5.6 | .0 |
| 311 | 10/18/77 | 26 | 5.3 | .8 | 5.3 | .7 | 5.3 | .9 | 5.3 | .8 | 5.3 | .0 |
| 312 | 10/18/77 | 15 | 5.1 | .7 | 5.1 | .7 | 5.1 | .9 | 5.1 | .8 | 5.1 | .0 |
| 313 | 10/18/77 | 2 | 4.7 | .7 | 4.7 | .6 | 4.7 | .8 | 4.7 | .8 | 4.7 | .0 |
| 314 | 10/18/77 | 3 | 4.3 | .6 | 4.3 | .6 | 4.3 | .8 | 4.3 | .7 | 4.3 | .0 |
| 315 | 10/18/77 | 18 | 4.2 | .6 | 4.2 | .6 | 4.2 | .7 | 4.2 | .7 | 4.2 | .0 |
| 316 | 10/18/77 | 6 | 4.0 | .6 | 4.0 | .6 | 4.0 | .7 | 4.0 | .7 | 4.0 | .0 |
| 317 | 10/18/77 | 14 | 3.8 | .6 | 3.8 | .5 | 3.8 | .7 | 3.8 | .6 | 3.8 | .0 |
| 318 | 10/18/77 | 20 | 3.7 | .5 | 3.7 | .5 | 3.7 | .7 | 3.7 | .6 | 3.7 | .0 |
| 319 | 10/18/77 | 32 | 3.5 | .5 | 3.5 | .5 | 3.5 | .6 | 3.5 | .6 | 3.5 | .0 |
| 320 | 10/18/77 | 33 | 3.4 | .4 | 3.4 | .4 | 3.4 | .6 | 3.4 | .5 | 3.4 | .0 |
| 321 | 10/18/77 | 21 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 |
| 322 | 10/18/77 | 24 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 |
| 323 | 10/18/77 | 27 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 |
| 324 | 10/18/77 | 36 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 |
| 325 | 10/19/77 | 19 | 11.5 | 1.1 | 11.5 | 2.6 | 11.5 | 1.9 | 11.5 | 1.0 | 11.5 | .0 |
| 326 | 10/19/77 | 9 | 11.1 | 1.1 | 11.1 | 2.5 | 11.1 | 1.8 | 11.1 | 1.0 | 11.1 | .0 |
| 327 | 10/19/77 | 36 | 10.0 | 1.0 | 10.0 | 2.3 | 10.0 | 1.6 | 10.0 | .9 | 10.0 | .0 |
| 328 | 10/19/77 | 17 | 9.3 | .9 | 9.3 | 2.1 | 9.3 | 1.5 | 9.3 | .8 | 9.3 | .0 |
| 329 | 10/19/77 | 6 | 7.9 | .8 | 7.9 | 1.8 | 7.9 | 1.3 | 7.9 | .7 | 7.9 | .0 |
| 330 | 10/19/77 | 30 | 7.4 | .7 | 7.4 | 1.7 | 7.4 | 1.2 | 7.4 | .6 | 7.4 | .0 |
| 331 | 10/19/77 | 31 | 6.7 | .6 | 6.7 | 1.5 | 6.7 | 1.1 | 6.7 | .6 | 6.7 | .0 |
| 332 | 10/19/77 | 15 | 6.6 | .6 | 6.6 | 1.5 | 6.6 | 1.1 | 6.6 | .6 | 6.6 | .0 |
| 333 | 10/19/77 | 1 | 6.5 | .6 | 6.5 | 1.5 | 6.5 | 1.1 | 6.5 | .6 | 6.5 | .0 |
| 334 | 10/19/77 | 26 | 6.4 | .6 | 6.4 | 1.5 | 6.4 | 1.0 | 6.4 | .6 | 6.4 | .0 |
| 335 | 10/19/77 | 7 | 6.4 | .6 | 6.4 | 1.5 | 6.4 | 1.0 | 6.4 | .6 | 6.4 | .0 |
| 336 | 10/19/77 | 4 | 6.1 | .6 | 6.1 | 1.4 | 6.1 | 1.0 | 6.1 | .5 | 6.1 | .0 |
| 337 | 10/19/77 | 25 | 6.1 | .6 | 6.1 | 1.4 | 6.1 | 1.0 | 6.1 | .5 | 6.1 | .0 |
| 338 | 10/19/77 | 16 | 6.0 | .6 | 6.0 | 1.4 | 6.0 | 1.0 | 6.0 | .5 | 6.0 | .0 |
| 339 | 10/19/77 | 18 | 5.8 | .6 | 5.8 | 1.3 | 5.8 | .9 | 5.8 | .5 | 5.8 | .0 |
| 340 | 10/19/77 | 11 | 5.7 | .6 | 5.7 | 1.3 | 5.7 | .9 | 5.7 | .5 | 5.7 | .0 |
| 341 | 10/19/77 | 20 | 5.7 | .6 | 5.7 | 1.3 | 5.7 | .9 | 5.7 | .5 | 5.7 | .0 |
| 342 | 10/19/77 | 13 | 5.6 | .5 | 5.6 | 1.3 | 5.6 | .9 | 5.6 | .5 | 5.6 | .0 |
| 343 | 10/19/77 | 5 | 5.6 | .5 | 5.6 | 1.3 | 5.6 | .9 | 5.6 | .5 | 5.6 | .0 |
| 344 | 10/19/77 | 10 | 5.5 | .5 | 5.5 | 1.3 | 5.5 | .9 | 5.5 | .5 | 5.5 | .0 |
| 345 | 10/19/77 | 23 | 5.4 | .5 | 5.4 | 1.2 | 5.4 | .9 | 5.4 | .5 | 5.4 | .0 |
| 346 | 10/19/77 | 24 | 4.7 | .5 | 4.7 | 1.1 | 4.7 | .8 | 4.7 | .4 | 4.7 | .0 |
| 347 | 10/19/77 | 27 | 4.4 | .4 | 4.4 | 1.0 | 4.4 | .7 | 4.4 | .4 | 4.4 | .0 |
| 348 | 10/19/77 | 8 | 4.3 | .4 | 4.3 | 1.0 | 4.3 | .7 | 4.3 | .4 | 4.3 | .0 |
| 349 | 10/19/77 | 22 | 3.9 | .4 | 3.9 | .9 | 3.9 | .6 | 3.9 | .3 | 3.9 | .0 |
| 350 | 10/19/77 | 33 | 3.6 | .4 | 3.6 | .8 | 3.6 | .6 | 3.6 | .3 | 3.6 | .0 |
| 351 | 10/19/77 | 2 | 3.6 | .4 | 3.6 | .8 | 3.6 | .6 | 3.6 | .3 | 3.6 | .0 |
| 352 | 10/19/77 | 28 | 3.5 | .3 | 3.5 | .8 | 3.5 | .6 | 3.5 | .3 | 3.5 | .0 |
| 353 | 10/19/77 | 14 | 3.5 | .3 | 3.5 | .8 | 3.5 | .6 | 3.5 | .3 | 3.5 | .0 |
| 354 | 10/19/77 | 32 | 3.4 | .3 | 3.4 | .8 | 3.4 | .6 | 3.4 | .3 | 3.4 | .0 |
| 355 | 10/19/77 | 3 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 |
| 356 | 10/19/77 | 12 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 |
| 357 | 10/19/77 | 21 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 |
| 358 | 10/19/77 | 28 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 |
| 359 | 10/19/77 | 34 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 |
| 360 | 10/19/77 | 35 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 |

| RECNO | DATE | SIT | AUC | R.C.J | AUC | R.C.U | AUC | R.C.S | AUC | R.C.P | AUC | R.C.F |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 361 | 10/20/77 | 19 | 11.3 | 1.6 | 11.3 | 1.3 | 11.3 | .0 | 11.3 | 1.3 | 11.3 | 1.9 |
| 362 | 10/20/77 | 36 | 9.2 | 1.3 | 9.2 | 1.0 | 9.2 | .0 | 9.2 | 1.0 | 9.2 | 1.6 |
| 363 | 10/20/77 | 5 | 9.2 | 1.3 | 9.2 | 1.0 | 9.2 | .0 | 9.2 | 1.0 | 9.2 | 1.6 |
| 364 | 10/20/77 | 17 | 9.2 | 1.3 | 9.2 | 1.0 | 9.2 | .0 | 9.2 | 1.0 | 9.2 | 1.6 |
| 365 | 10/20/77 | 10 | 8.7 | 1.2 | 8.7 | 1.0 | 8.7 | .0 | 8.7 | 1.0 | 8.7 | 1.5 |
| 366 | 10/20/77 | 28 | 8.7 | 1.2 | 8.7 | 1.0 | 8.7 | .0 | 8.7 | 1.0 | 8.7 | 1.5 |
| 367 | 10/20/77 | 16 | 8.6 | 1.2 | 8.6 | 1.0 | 8.6 | .0 | 8.6 | 1.0 | 8.6 | 1.5 |
| 368 | 10/20/77 | 8 | 8.4 | 1.2 | 8.4 | .9 | 8.4 | .0 | 8.4 | .9 | 8.4 | 1.4 |
| 369 | 10/20/77 | 9 | 8.2 | 1.1 | 8.2 | .9 | 8.2 | .0 | 8.2 | .9 | 8.2 | 1.4 |
| 370 | 10/20/77 | 4 | 7.7 | 1.1 | 7.7 | .9 | 7.7 | .0 | 7.7 | .9 | 7.7 | 1.3 |
| 371 | 10/20/77 | 22 | 7.5 | 1.0 | 7.5 | .8 | 7.5 | .0 | 7.5 | .8 | 7.5 | 1.3 |
| 372 | 10/20/77 | 11 | 7.3 | 1.0 | 7.3 | .8 | 7.3 | .0 | 7.3 | .8 | 7.3 | 1.2 |
| 373 | 10/20/77 | 31 | 7.2 | 1.0 | 7.2 | .8 | 7.2 | .0 | 7.2 | .8 | 7.2 | 1.2 |
| 374 | 10/20/77 | 7 | 7.1 | 1.0 | 7.1 | .8 | 7.1 | .0 | 7.1 | .8 | 7.1 | 1.2 |
| 375 | 10/20/77 | 30 | 7.0 | 1.0 | 7.0 | .8 | 7.0 | .0 | 7.0 | .8 | 7.0 | 1.2 |
| 376 | 10/20/77 | 34 | 6.9 | 1.0 | 6.9 | .8 | 6.9 | .0 | 6.9 | .8 | 6.9 | 1.2 |
| 377 | 10/20/77 | 12 | 6.8 | .9 | 6.8 | .8 | 6.8 | .0 | 6.8 | .8 | 6.8 | 1.2 |
| 378 | 10/20/77 | 23 | 6.7 | .9 | 6.7 | .7 | 6.7 | .0 | 6.7 | .7 | 6.7 | 1.1 |
| 379 | 10/20/77 | 3 | 6.4 | .9 | 6.4 | .7 | 6.4 | .0 | 6.4 | .7 | 6.4 | 1.1 |
| 380 | 10/20/77 | 25 | 6.2 | .8 | 6.2 | .7 | 6.2 | .0 | 6.2 | .7 | 6.2 | 1.0 |
| 381 | 10/20/77 | 26 | 5.6 | .8 | 5.6 | .6 | 5.6 | .0 | 5.6 | .6 | 5.6 | 1.0 |
| 382 | 10/20/77 | 6 | 5.6 | .8 | 5.6 | .6 | 5.6 | .0 | 5.6 | .6 | 5.6 | .9 |
| 383 | 10/20/77 | 29 | 5.5 | .8 | 5.5 | .6 | 5.5 | .0 | 5.5 | .6 | 5.5 | .9 |
| 384 | 10/20/77 | 21 | 5.4 | .7 | 5.4 | .6 | 5.4 | .0 | 5.4 | .6 | 5.4 | .9 |
| 385 | 10/20/77 | 13 | 4.7 | .6 | 4.7 | .5 | 4.7 | .0 | 4.7 | .5 | 4.7 | .8 |
| 386 | 10/20/77 | 18 | 4.7 | .6 | 4.7 | .5 | 4.7 | .0 | 4.7 | .5 | 4.7 | .8 |
| 387 | 10/20/77 | 35 | 4.4 | .6 | 4.4 | .5 | 4.4 | .0 | 4.4 | .5 | 4.4 | .7 |
| 388 | 10/20/77 | 14 | 4.4 | .6 | 4.4 | .5 | 4.4 | .0 | 4.4 | .5 | 4.4 | .7 |
| 389 | 10/20/77 | 20 | 4.1 | .6 | 4.1 | .5 | 4.1 | .0 | 4.1 | .5 | 4.1 | .7 |
| 390 | 10/20/77 | 2 | 3.9 | .5 | 3.9 | .4 | 3.9 | .0 | 3.9 | .4 | 3.9 | .7 |
| 391 | 10/20/77 | 1 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 |
| 392 | 10/20/77 | 15 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 |
| 393 | 10/20/77 | 24 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 |
| 394 | 10/20/77 | 27 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 |
| 395 | 10/20/77 | 32 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 |
| 396 | 10/20/77 | 33 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 |
| 397 | 10/21/77 | 18 | 15.0 | 3.1 | 15.0 | 1.4 | 15.0 | 1.5 | 15.0 | 1.2 | 15.0 | .0 |
| 398 | 10/21/77 | 19 | 12.9 | 2.7 | 12.9 | 1.2 | 12.9 | 1.3 | 12.9 | 1.1 | 12.9 | .0 |
| 399 | 10/21/77 | 5 | 11.5 | 2.4 | 11.5 | 1.1 | 11.5 | 1.2 | 11.5 | 1.0 | 11.5 | .0 |
| 400 | 10/21/77 | 23 | 11.4 | 2.4 | 11.4 | 1.0 | 11.4 | 1.2 | 11.4 | 1.0 | 11.4 | .0 |
| 401 | 10/21/77 | 7 | 11.0 | 2.3 | 11.0 | 1.0 | 11.0 | 1.1 | 11.0 | .9 | 11.0 | .0 |
| 402 | 10/21/77 | 22 | 10.9 | 2.3 | 10.9 | 1.0 | 10.9 | 1.1 | 10.9 | .9 | 10.9 | .0 |
| 403 | 10/21/77 | 17 | 10.6 | 2.2 | 10.6 | 1.0 | 10.6 | 1.1 | 10.6 | .9 | 10.6 | .0 |
| 404 | 10/21/77 | 4 | 10.5 | 2.2 | 10.5 | 1.0 | 10.5 | 1.1 | 10.5 | .9 | 10.5 | .0 |
| 405 | 10/21/77 | 8 | 10.4 | 2.2 | 10.4 | 1.0 | 10.4 | 1.1 | 10.4 | .9 | 10.4 | .0 |
| 406 | 10/21/77 | 9 | 10.3 | 2.2 | 10.3 | .9 | 10.3 | 1.1 | 10.3 | .9 | 10.3 | .0 |
| 407 | 10/21/77 | 24 | 9.6 | 2.0 | 9.6 | .9 | 9.6 | 1.0 | 9.6 | .8 | 9.6 | .0 |
| 408 | 10/21/77 | 11 | 9.1 | 1.9 | 9.1 | .8 | 9.1 | .9 | 9.1 | .8 | 9.1 | .0 |
| 409 | 10/21/77 | 16 | 8.6 | 1.9 | 8.6 | .8 | 8.6 | .9 | 8.6 | .7 | 8.6 | .0 |
| 410 | 10/21/77 | 3 | 8.5 | 1.8 | 8.5 | .8 | 8.5 | .9 | 8.5 | .7 | 8.5 | .0 |
| 411 | 10/21/77 | 27 | 8.5 | 1.8 | 8.5 | .8 | 8.5 | .9 | 8.5 | .7 | 8.5 | .0 |
| 412 | 10/21/77 | 1 | 8.4 | 1.8 | 8.4 | .8 | 8.4 | .9 | 8.4 | .7 | 8.4 | .0 |
| 413 | 10/21/77 | 28 | 7.6 | 1.6 | 7.6 | .7 | 7.6 | .8 | 7.6 | .6 | 7.6 | .0 |
| 414 | 10/21/77 | 36 | 7.1 | 1.5 | 7.1 | .7 | 7.1 | .7 | 7.1 | .6 | 7.1 | .0 |
| 415 | 10/21/77 | 25 | 6.9 | 1.5 | 6.9 | .6 | 6.9 | .7 | 6.9 | .6 | 6.9 | .0 |
| 416 | 10/21/77 | 15 | 6.1 | 1.3 | 6.1 | .6 | 6.1 | .6 | 6.1 | .5 | 6.1 | .0 |
| 417 | 10/21/77 | 12 | 6.0 | 1.3 | 6.0 | .5 | 6.0 | .6 | 6.0 | .6 | 6.0 | .0 |
| 418 | 10/21/77 | 29 | 5.9 | 1.2 | 5.9 | .5 | 5.9 | .6 | 5.9 | .6 | 5.9 | .0 |
| 419 | 10/21/77 | 26 | 5.4 | 1.1 | 5.4 | .5 | 5.4 | .6 | 5.4 | .6 | 5.4 | .0 |
| 420 | 10/21/77 | 6 | 5.3 | 1.1 | 5.3 | .5 | 5.3 | .6 | 5.3 | .4 | 5.3 | .0 |

| RECNO | DATE | SIT | AUC ↴ | R.C.J | AUC ↴ | R.C.U | AUC ↴ | R.C.S | AUC ↴ | R.C.P | AUC ↴ | R.C.F |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 421 | 10/21/77 | 36 | 5.0 | 1.1 | 5.0 | .5 | 5.0 | .5 | 5.0 | .4 | 5.0 | .0 |
| 422 | 10/21/77 | 14 | 4.7 | 1.0 | 4.7 | .4 | 4.7 | .5 | 4.7 | .4 | 4.7 | .0 |
| 423 | 10/21/77 | 2 | 4.6 | 1.0 | 4.6 | .4 | 4.6 | .5 | 4.6 | .4 | 4.6 | .0 |
| 424 | 10/21/77 | 13 | 4.5 | .9 | 4.5 | .4 | 4.5 | .5 | 4.5 | .4 | 4.5 | .0 |
| 425 | 10/21/77 | 21 | 4.3 | .9 | 4.3 | .4 | 4.3 | .4 | 4.3 | .4 | 4.3 | .0 |
| 426 | 10/21/77 | 31 | 4.1 | .9 | 4.1 | .4 | 4.1 | .4 | 4.1 | .3 | 4.1 | .0 |
| 427 | 10/21/77 | 30 | 3.9 | .8 | 3.9 | .4 | 3.9 | .4 | 3.9 | .3 | 3.9 | .0 |
| 428 | 10/21/77 | 20 | 3.5 | .7 | 3.6 | .3 | 3.5 | .4 | 3.5 | .3 | 3.5 | .0 |
| 429 | 10/21/77 | 18 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 |
| 430 | 10/21/77 | 32 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 |
| 431 | 10/21/77 | 33 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 |
| 432 | 10/21/77 | 34 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 |
| 433 | 10/24/77 | 22 | 8.9 | 2.6 | 8.9 | 1.7 | 8.9 | 1.4 | 8.9 | 1.1 | 8.9 | 3.4 |
| 434 | 10/24/77 | 9 | 7.8 | 2.3 | 7.8 | 1.5 | 7.8 | 1.2 | 7.8 | 1.0 | 7.8 | 3.0 |
| 435 | 10/24/77 | 19 | 7.8 | 2.3 | 7.8 | 1.5 | 7.8 | 1.2 | 7.8 | 1.0 | 7.8 | 3.0 |
| 436 | 10/24/77 | 10 | 7.8 | 2.3 | 7.8 | 1.5 | 7.8 | 1.2 | 7.8 | 1.0 | 7.8 | 3.0 |
| 437 | 10/24/77 | 5 | 6.7 | 2.0 | 6.7 | 1.3 | 6.7 | 1.0 | 6.7 | .8 | 6.7 | 2.5 |
| 438 | 10/24/77 | 23 | 6.4 | 1.9 | 6.4 | 1.2 | 6.4 | 1.0 | 6.4 | .8 | 6.4 | 2.4 |
| 439 | 10/24/77 | 8 | 5.6 | 1.6 | 5.6 | 1.1 | 5.6 | .9 | 5.6 | .7 | 5.6 | 2.1 |
| 440 | 10/24/77 | 1 | 5.5 | 1.6 | 5.5 | 1.1 | 5.5 | .9 | 5.5 | .7 | 5.5 | 2.1 |
| 441 | 10/24/77 | 11 | 5.4 | 1.6 | 5.4 | 1.0 | 5.4 | .8 | 5.4 | .7 | 5.4 | 2.0 |
| 442 | 10/24/77 | 17 | 5.4 | 1.6 | 5.4 | 1.0 | 5.4 | .8 | 5.4 | .7 | 5.4 | 2.0 |
| 443 | 10/24/77 | 16 | 5.3 | 1.6 | 5.3 | 1.0 | 5.3 | .8 | 5.3 | .7 | 5.3 | 2.0 |
| 444 | 10/24/77 | 4 | 5.1 | 1.5 | 5.1 | 1.0 | 5.1 | .8 | 5.1 | .6 | 5.1 | 1.9 |
| 445 | 10/24/77 | 24 | 5.1 | 1.5 | 5.1 | 1.0 | 5.1 | .8 | 5.1 | .6 | 5.1 | 1.9 |
| 446 | 10/24/77 | 12 | 4.9 | 1.5 | 4.9 | 1.0 | 4.9 | .8 | 4.9 | .6 | 4.9 | 1.9 |
| 447 | 10/24/77 | 26 | 4.7 | 1.4 | 4.7 | .9 | 4.7 | .7 | 4.7 | .6 | 4.7 | 1.8 |
| 448 | 10/24/77 | 29 | 4.7 | 1.4 | 4.7 | .9 | 4.7 | .7 | 4.7 | .6 | 4.7 | 1.8 |
| 449 | 10/24/77 | 34 | 4.7 | 1.4 | 4.7 | .9 | 4.7 | .7 | 4.7 | .6 | 4.7 | 1.8 |
| 450 | 10/24/77 | 31 | 4.6 | 1.4 | 4.6 | .9 | 4.6 | .7 | 4.6 | .6 | 4.6 | 1.8 |
| 451 | 10/24/77 | 7 | 4.6 | 1.3 | 4.6 | .9 | 4.6 | .7 | 4.6 | .6 | 4.6 | 1.7 |
| 452 | 10/24/77 | 27 | 4.4 | 1.3 | 4.4 | .9 | 4.4 | .7 | 4.4 | .6 | 4.4 | 1.7 |
| 453 | 10/24/77 | 3 | 4.1 | 1.2 | 4.1 | .8 | 4.1 | .6 | 4.1 | .5 | 4.1 | 1.6 |
| 454 | 10/24/77 | 25 | 4.0 | 1.2 | 4.0 | .8 | 4.0 | .6 | 4.0 | .5 | 4.0 | 1.5 |
| 455 | 10/24/77 | 28 | 3.5 | 1.1 | 3.5 | .7 | 3.5 | .6 | 3.5 | .4 | 3.5 | 1.4 |
| 456 | 10/24/77 | 35 | 3.5 | 1.0 | 3.5 | .7 | 3.5 | .5 | 3.5 | .4 | 3.6 | 1.3 |
| 457 | 10/24/77 | 36 | 3.5 | 1.0 | 3.5 | .7 | 3.5 | .6 | 3.5 | .4 | 3.5 | 1.3 |
| 458 | 10/24/77 | 14 | 3.2 | 1.0 | 3.2 | .6 | 3.2 | .5 | 3.2 | .4 | 3.2 | 1.2 |
| 459 | 10/24/77 | 18 | 3.2 | .9 | 3.2 | .6 | 3.2 | .5 | 3.2 | .4 | 3.2 | 1.2 |
| 460 | 10/24/77 | 15 | 3.1 | .9 | 3.1 | .6 | 3.1 | .5 | 3.1 | .4 | 3.1 | 1.2 |
| 461 | 10/24/77 | 6 | 3.0 | .9 | 3.0 | .6 | 3.0 | .5 | 3.0 | .4 | 3.0 | 1.1 |
| 462 | 10/24/77 | 21 | 3.0 | .9 | 3.0 | .6 | 3.0 | .5 | 3.0 | .4 | 3.0 | 1.1 |
| 463 | 10/24/77 | 30 | 2.9 | .8 | 2.9 | .6 | 2.9 | .4 | 2.9 | .4 | 2.9 | 1.1 |
| 464 | 10/24/77 | 2 | 2.6 | .8 | 2.6 | .5 | 2.6 | .4 | 2.6 | .3 | 2.6 | 1.0 |
| 465 | 10/24/77 | 13 | 2.6 | .8 | 2.6 | .5 | 2.6 | .4 | 2.6 | .3 | 2.6 | 1.0 |
| 466 | 10/24/77 | 20 | 2.2 | .7 | 2.2 | .4 | 2.2 | .3 | 2.2 | .3 | 2.2 | .8 |
| 467 | 10/24/77 | 32 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 |
| 468 | 10/24/77 | 33 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 |
| 469 | 10/25/77 | 19 | 8.7 | .0 | 8.7 | .0 | 8.7 | .0 | 8.7 | .0 | 8.7 | 3.3 |
| 470 | 10/25/77 | 9 | 8.1 | .0 | 8.1 | .0 | 8.1 | .0 | 8.1 | .0 | 8.1 | 3.1 |
| 471 | 10/25/77 | 22 | 8.0 | .0 | 8.0 | .0 | 8.0 | .0 | 8.0 | .0 | 8.0 | 3.0 |
| 472 | 10/25/77 | 1 | 6.6 | .0 | 6.6 | .0 | 6.6 | .0 | 6.6 | .0 | 6.6 | 2.5 |
| 473 | 10/25/77 | 24 | 6.3 | .0 | 6.3 | .0 | 6.3 | .0 | 6.3 | .0 | 6.3 | 2.4 |
| 474 | 10/25/77 | 28 | 6.1 | .0 | 6.1 | .0 | 6.1 | .0 | 6.1 | .0 | 6.1 | 2.3 |
| 475 | 10/25/77 | 36 | 6.1 | .0 | 6.1 | .0 | 6.1 | .0 | 6.1 | .0 | 6.1 | 2.3 |
| 476 | 10/25/77 | 18 | 6.0 | .0 | 6.0 | .0 | 6.0 | .0 | 6.0 | .0 | 6.0 | 2.3 |
| 477 | 10/25/77 | 17 | 6.0 | .0 | 6.0 | .0 | 6.0 | .0 | 6.0 | .0 | 6.0 | 2.3 |
| 478 | 10/25/77 | 8 | 5.8 | .0 | 5.8 | .0 | 5.8 | .0 | 5.8 | .0 | 5.8 | 2.2 |
| 479 | 10/25/77 | 34 | 4.7 | .0 | 4.7 | .0 | 4.7 | .0 | 4.7 | .0 | 4.7 | 1.8 |
| 480 | 10/25/77 | 11 | 4.4 | .0 | 4.4 | .0 | 4.4 | .0 | 4.4 | .0 | 4.4 | 1.7 |

| RECNO | DATE | SIT | AVC | R.C.J | AVC | R.C.U | AVC | R.C.B | AVC | R.C.P | AVC | R.C.F |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 481 | 10/25/77 | 10 | 4.3 | .0 | 4.3 | .0 | 4.3 | .0 | 4.3 | .0 | 4.3 | 1.8 |
| 482 | 10/25/77 | 25 | 4.3 | .0 | 4.3 | .0 | 4.3 | .0 | 4.3 | .0 | 4.3 | 1.8 |
| 483 | 10/25/77 | 27 | 4.0 | .0 | 4.0 | .0 | 4.0 | .0 | 4.0 | .0 | 4.0 | 1.5 |
| 484 | 10/25/77 | 15 | 3.7 | .0 | 3.7 | .0 | 3.7 | .0 | 3.7 | .0 | 3.7 | 1.4 |
| 485 | 10/25/77 | 31 | 3.5 | .0 | 3.5 | .0 | 3.5 | .0 | 3.5 | .0 | 3.5 | 1.3 |
| 486 | 10/25/77 | 29 | 3.0 | .0 | 3.0 | .0 | 3.0 | .0 | 3.0 | .0 | 3.0 | 1.1 |
| 487 | 10/25/77 | 8 | 2.7 | .0 | 2.7 | .0 | 2.7 | .0 | 2.7 | .0 | 2.7 | 1.0 |
| 488 | 10/25/77 | 14 | 2.7 | .0 | 2.7 | .0 | 2.7 | .0 | 2.7 | .0 | 2.7 | 1.0 |
| 489 | 10/25/77 | 6 | 2.7 | .0 | 2.7 | .0 | 2.7 | .0 | 2.7 | .0 | 2.7 | 1.0 |
| 490 | 10/25/77 | 35 | 2.4 | .0 | 2.4 | .0 | 2.4 | .0 | 2.4 | .0 | 2.4 | .9 |
| 491 | 10/25/77 | 30 | 2.2 | .0 | 2.2 | .0 | 2.2 | .0 | 2.2 | .0 | 2.2 | .8 |
| 492 | 10/25/77 | 18 | 2.0 | .0 | 2.0 | .0 | 2.0 | .0 | 2.0 | .0 | 2.0 | .8 |
| 493 | 10/25/77 | 21 | 2.0 | .0 | 2.0 | .0 | 2.0 | .0 | 2.0 | .0 | 2.0 | .8 |
| 494 | 10/25/77 | 20 | 1.7 | .0 | 1.7 | .0 | 1.7 | .0 | 1.7 | .0 | 1.7 | .6 |
| 495 | 10/25/77 | 3 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 |
| 496 | 10/25/77 | 4 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 |
| 497 | 10/25/77 | 5 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 |
| 498 | 10/25/77 | 7 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 |
| 499 | 10/25/77 | 12 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 |
| 500 | 10/25/77 | 13 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 |
| 501 | 10/25/77 | 23 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 |
| 502 | 10/25/77 | 26 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 |
| 503 | 10/25/77 | 32 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 |
| 504 | 10/25/77 | 33 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 |
| 505 | 10/26/77 | 19 | 9.5 | .0 | 9.5 | 1.2 | 9.5 | 1.4 | 9.5 | 1.0 | 9.5 | 2.6 |
| 506 | 10/26/77 | 22 | 8.8 | .0 | 8.8 | 1.1 | 8.8 | 1.2 | 8.8 | .9 | 8.8 | 2.4 |
| 507 | 10/26/77 | 9 | 8.6 | .0 | 8.6 | 1.1 | 8.6 | 1.2 | 8.6 | .9 | 8.6 | 2.4 |
| 508 | 10/26/77 | 10 | 8.6 | .0 | 8.6 | 1.1 | 8.6 | 1.2 | 8.6 | .9 | 8.6 | 2.4 |
| 509 | 10/26/77 | 11 | 8.3 | .0 | 8.3 | 1.1 | 8.3 | 1.2 | 8.3 | .9 | 8.3 | 2.3 |
| 510 | 10/26/77 | 23 | 6.4 | .0 | 6.4 | .8 | 6.4 | .9 | 6.4 | .7 | 6.4 | 1.8 |
| 511 | 10/26/77 | 8 | 6.3 | .0 | 6.3 | .8 | 6.3 | .9 | 6.3 | .7 | 6.3 | 1.7 |
| 512 | 10/26/77 | 3 | 6.0 | .0 | 6.0 | .8 | 6.0 | .9 | 6.0 | .6 | 6.0 | 1.7 |
| 513 | 10/26/77 | 4 | 6.0 | .0 | 6.0 | .8 | 6.0 | .9 | 6.0 | .6 | 6.0 | 1.6 |
| 514 | 10/26/77 | 16 | 5.9 | .0 | 5.9 | .7 | 5.9 | .8 | 5.9 | .6 | 5.9 | 1.6 |
| 515 | 10/26/77 | 1 | 5.8 | .0 | 5.8 | .7 | 5.8 | .8 | 5.8 | .6 | 5.8 | 1.6 |
| 516 | 10/26/77 | 24 | 5.7 | .0 | 5.7 | .7 | 5.7 | .8 | 5.7 | .6 | 5.7 | 1.6 |
| 517 | 10/26/77 | 5 | 5.7 | .0 | 5.7 | .7 | 5.7 | .8 | 5.7 | .6 | 5.7 | 1.6 |
| 518 | 10/26/77 | 31 | 5.6 | .0 | 5.6 | .7 | 5.6 | .8 | 5.6 | .6 | 5.6 | 1.5 |
| 519 | 10/26/77 | 34 | 5.3 | .0 | 5.3 | .7 | 5.3 | .8 | 5.3 | .6 | 5.3 | 1.4 |
| 520 | 10/26/77 | 12 | 5.0 | .0 | 5.0 | .6 | 5.0 | .7 | 5.0 | .5 | 5.0 | 1.4 |
| 521 | 10/26/77 | 25 | 4.7 | .0 | 4.7 | .6 | 4.7 | .7 | 4.7 | .5 | 4.7 | 1.3 |
| 522 | 10/26/77 | 27 | 4.6 | .0 | 4.6 | .6 | 4.6 | .7 | 4.6 | .5 | 4.6 | 1.3 |
| 523 | 10/26/77 | 30 | 3.4 | .0 | 3.4 | .4 | 3.4 | .6 | 3.4 | .4 | 3.4 | .9 |
| 524 | 10/26/77 | 35 | 2.9 | .0 | 2.9 | .4 | 2.9 | .4 | 2.9 | .3 | 2.9 | .8 |
| 525 | 10/26/77 | 29 | 2.8 | .0 | 2.8 | .4 | 2.8 | .4 | 2.8 | .3 | 2.8 | .8 |
| 526 | 10/26/77 | 18 | 2.7 | .0 | 2.7 | .3 | 2.7 | .4 | 2.7 | .3 | 2.7 | .7 |
| 527 | 10/26/77 | 21 | 2.6 | .0 | 2.6 | .3 | 2.6 | .4 | 2.6 | .3 | 2.6 | .7 |
| 528 | 10/26/77 | 6 | 2.5 | .0 | 2.5 | .3 | 2.5 | .4 | 2.5 | .3 | 2.5 | .7 |
| 529 | 10/26/77 | 14 | 2.5 | .0 | 2.5 | .3 | 2.5 | .4 | 2.5 | .3 | 2.5 | .7 |
| 530 | 10/26/77 | 13 | 2.5 | .0 | 2.5 | .3 | 2.5 | .4 | 2.5 | .3 | 2.5 | .7 |
| 531 | 10/26/77 | 36 | 2.4 | .0 | 2.4 | .3 | 2.4 | .3 | 2.4 | .3 | 2.4 | .6 |
| 532 | 10/26/77 | 20 | 1.0 | .0 | 1.0 | .2 | 1.0 | .3 | 1.0 | .2 | 1.0 | .5 |
| 533 | 10/26/77 | 2 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 |
| 534 | 10/26/77 | 7 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 |
| 535 | 10/26/77 | 15 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 |
| 536 | 10/26/77 | 17 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 |
| 537 | 10/26/77 | 26 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 |
| 538 | 10/26/77 | 28 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 |
| 539 | 10/26/77 | 32 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 |
| 540 | 10/26/77 | 33 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 |

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RECNO  DATE      SIT  AVC──↓  R.C.J  AVC──↓  R.C.U  AVC──↓  R.C.S  AVC──↓  R.C.P  AVC──↓  R.C.F

 541  10/27/77    5    13.7     .0    13.7     .0    13.7    1.6    13.7    1.8    13.7     .0
 542  10/27/77   19    12.2     .0    12.2     .0    12.2    1.4    12.2    1.6    12.2     .0
 543  10/27/77   17    12.0     .0    12.0     .0    12.0    1.4    12.0    1.6    12.0     .0
 F44  10/27/77    1    11.7     .0    11.7     .0    11.7    1.4    11.7    1.5    11.7     .0
 545  10/27/77   22    11.2     .0    11.2     .0    11.2    1.3    11.2    1.5    11.2     .0
 546  10/27/77   10    11.0     .0    11.0     .0    11.0    1.3    11.0    1.4    11.0     .0
 547  10/27/77    7    10.6     .0    10.6     .0    10.6    1.2    10.6    1.4    10.6     .0
 548  10/27/77    8    10.0     .0    10.0     .0    10.0    1.2    10.0    1.3    10.0     .0
 549  10/27/77    4     9.3     .0     9.3     .0     9.3    1.1     9.3    1.2     9.3     .0
 550  10/27/77   11     9.1     .0     9.1     .0     9.1    1.1     9.1    1.2     9.1     .0
 551  10/27/77   16     9.1     .0     9.1     .0     9.1    1.1     9.1    1.2     9.1     .0
 552  10/27/77   25     9.0     .0     9.0     .0     9.0    1.0     9.0    1.2     9.0     .0
 553  10/27/77   34     8.7     .0     8.7     .0     8.7    1.0     8.7    1.1     8.7     .0
 554  10/27/77   23     8.6     .0     8.6     .0     8.6    1.0     8.6    1.1     8.6     .0
 555  10/27/77   24     8.6     .0     8.6     .0     8.6    1.0     8.6    1.1     8.6     .0
 556  10/27/77    9     8.2     .0     8.2     .0     8.2    1.0     8.2    1.1     8.2     .0
 557  10/27/77   15     7.6     .0     7.6     .0     7.6     .9     7.6    1.0     7.6     .0
 558  10/27/77    2     7.4     .0     7.4     .0     7.4     .9     7.4    1.0     7.4     .0
 559  10/27/77    3     7.2     .0     7.2     .0     7.2     .8     7.2     .9     7.2     .0
 560  10/27/77   29     7.1     .0     7.1     .0     7.1     .8     7.1     .9     7.1     .0
 561  10/27/77   21     6.7     .0     6.7     .0     6.7     .8     6.7     .9     6.7     .0
 562  10/27/77   36     6.6     .0     6.6     .0     6.6     .8     6.6     .9     6.6     .0
 563  10/27/77   26     6.3     .0     6.3     .0     6.3     .7     6.3     .8     6.3     .0
 564  10/27/77   30     6.0     .0     6.0     .0     6.0     .7     6.0     .8     6.0     .0
 565  10/27/77   27     6.0     .0     6.0     .0     6.0     .7     6.0     .8     6.0     .0
 566  10/27/77   35     5.7     .0     5.7     .0     5.7     .7     5.7     .7     5.7     .0
 567  10/27/77   18     5.5     .0     5.5     .0     5.5     .6     5.5     .7     5.5     .0
 568  10/27/77   13     5.1     .0     5.1     .0     5.1     .6     5.1     .7     5.1     .0
 569  10/27/77    6     5.1     .0     5.1     .0     5.1     .6     5.1     .7     5.1     .0
 570  10/27/77   14     4.4     .0     4.4     .0     4.4     .5     4.4     .6     4.4     .0
 571  10/27/77   20     3.5     .0     3.5     .0     3.5     .4     3.5     .5     3.5     .0
 572  10/27/77   12      .0     .0      .0     .0      .0     .0      .0     .0      .0     .0
 573  10/27/77   28      .0     .0      .0     .0      .0     .0      .0     .0      .0     .0
 574  10/27/77   31      .0     .0      .0     .0      .0     .0      .0     .0      .0     .0
 575  10/27/77   32      .0     .0      .0     .0      .0     .0      .0     .0      .0     .0
 576  10/27/77   33      .0     .0      .0     .0      .0     .0      .0     .0      .0     .0
 577  10/28/77    1    16.1     .0    16.1    1.3    16.1    1.3    16.1    1.2    16.1    2.5
 578  10/28/77   10    15.0     .0    15.0    1.2    15.0    1.2    15.0    1.1    15.0    2.3
 579  10/28/77    7    14.5     .0    14.5    1.1    14.5    1.2    14.5    1.1    14.5    2.2
 580  10/28/77    9    14.0     .0    14.0    1.1    14.0    1.1    14.0    1.0    14.0    2.1
 581  10/28/77   19    13.9     .0    13.9    1.1    13.9    1.1    13.9    1.0    13.9    2.1
 582  10/28/77    5    11.9     .0    11.9     .9    11.9    1.0    11.9     .9    11.9    1.8
 583  10/28/77    4    11.8     .0    11.8     .9    11.8    1.0    11.8     .9    11.8    1.8
 584  10/28/77   17    11.6     .0    11.6     .9    11.6     .9    11.6     .8    11.6    1.8
 585  10/28/77    3    11.0     .0    11.0     .9    11.0     .9    11.0     .8    11.0    1.7
 586  10/28/77   11    10.8     .0    10.8     .8    10.8     .9    10.8     .8    10.8    1.7
 587  10/28/77   24    10.7     .0    10.7     .8    10.7     .9    10.7     .8    10.7    1.6
 588  10/28/77   29    10.4     .0    10.4     .8    10.4     .8    10.4     .8    10.4    1.6
 589  10/28/77   15    10.3     .0    10.3     .8    10.3     .8    10.3     .8    10.3    1.6
 590  10/28/77   12    10.3     .0    10.3     .8    10.3     .8    10.3     .8    10.3    1.6
 591  10/28/77   34    10.3     .0    10.3     .8    10.3     .8    10.3     .8    10.3    1.6
 592  10/28/77   26     9.3     .0     9.3     .7     9.3     .8     9.3     .7     9.3    1.4
 593  10/28/77   23     9.0     .0     9.0     .7     9.0     .7     9.0     .7     9.0    1.4
 594  10/28/77   18     7.4     .0     7.4     .6     7.4     .6     7.4     .5     7.4    1.1
 595  10/28/77   14     7.3     .0     7.3     .6     7.3     .6     7.3     .5     7.3    1.1
 596  10/28/77   31     7.2     .0     7.2     .6     7.2     .6     7.2     .5     7.2    1.1
 597  10/28/77   21     7.1     .0     7.1     .6     7.1     .6     7.1     .5     7.1    1.1
 598  10/28/77   28     7.1     .0     7.1     .6     7.1     .6     7.1     .5     7.1    1.1
 599  10/28/77   27     7.1     .0     7.1     .6     7.1     .6     7.1     .5     7.1    1.1
 600  10/28/77    2     7.0     .0     7.0     .6     7.0     .6     7.0     .5     7.0    1.1
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| REC NO | DATE | SIT | AVC | R.C.J | AVC | R.C.U | AVC | R.C.S | AVC | R.C.P | AVC | R.C.F |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 601 | 10/28/77 | 6 | 6.6 | .0 | 6.6 | .5 | 6.6 | .5 | 6.6 | .5 | 6.6 | 1.0 |
| 602 | 10/28/77 | 30 | 6.5 | .0 | 6.5 | .5 | 6.5 | .5 | 6.5 | .5 | 6.5 | 1.0 |
| 603 | 10/28/77 | 13 | 6.2 | .0 | 6.2 | .5 | 6.2 | .5 | 6.2 | .5 | 6.2 | 1.0 |
| 604 | 10/28/77 | 35 | 5.1 | .0 | 5.1 | .4 | 5.1 | .4 | 5.1 | .4 | 5.1 | .8 |
| 605 | 10/28/77 | 20 | 4.4 | .0 | 4.4 | .3 | 4.4 | .4 | 4.4 | .3 | 4.4 | .7 |
| 606 | 10/28/77 | 8 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 |
| 607 | 10/28/77 | 16 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 |
| 608 | 10/28/77 | 22 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 |
| 609 | 10/28/77 | 28 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 |
| 610 | 10/28/77 | 32 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 |
| 611 | 10/28/77 | 33 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 |
| 612 | 10/28/77 | 36 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 |
| 613 | 10/31/77 | 22 | 9.5 | .0 | 9.5 | 1.6 | 9.5 | 1.4 | 9.5 | 1.2 | 9.5 | 3.5 |
| 614 | 10/31/77 | 19 | 9.3 | .0 | 9.3 | 1.5 | 9.3 | 1.4 | 9.3 | 1.1 | 9.3 | 3.4 |
| 615 | 10/31/77 | 9 | 8.8 | .0 | 8.8 | 1.4 | 8.8 | 1.3 | 8.8 | 1.1 | 8.8 | 3.2 |
| 616 | 10/31/77 | 1 | 7.3 | .0 | 7.3 | 1.2 | 7.3 | 1.1 | 7.3 | .9 | 7.3 | 2.7 |
| 617 | 10/31/77 | 4 | 6.9 | .0 | 6.9 | 1.1 | 6.9 | 1.0 | 6.9 | .8 | 6.9 | 2.5 |
| 618 | 10/31/77 | 11 | 6.7 | .0 | 6.7 | 1.1 | 6.7 | 1.0 | 6.7 | .8 | 6.7 | 2.4 |
| 619 | 10/31/77 | 34 | 6.3 | .0 | 6.3 | 1.0 | 6.3 | .9 | 6.3 | .8 | 6.3 | 2.3 |
| 620 | 10/31/77 | 24 | 6.0 | .0 | 6.0 | 1.0 | 6.0 | .9 | 6.0 | .7 | 6.0 | 2.2 |
| 621 | 10/31/77 | 23 | 5.9 | .0 | 5.9 | 1.0 | 5.9 | .9 | 5.9 | .7 | 5.9 | 2.1 |
| 622 | 10/31/77 | 17 | 5.5 | .0 | 5.5 | .9 | 5.5 | .8 | 5.5 | .7 | 5.5 | 2.0 |
| 623 | 10/31/77 | 16 | 5.2 | .0 | 5.2 | .8 | 5.2 | .7 | 5.2 | .6 | 5.2 | 1.9 |
| 624 | 10/31/77 | 5 | 5.1 | .0 | 5.1 | .8 | 5.1 | .7 | 5.1 | .6 | 5.1 | 1.8 |
| 625 | 10/31/77 | 8 | 4.7 | .0 | 4.7 | .8 | 4.7 | .7 | 4.7 | .6 | 4.7 | 1.7 |
| 626 | 10/31/77 | 27 | 4.7 | .0 | 4.7 | .8 | 4.7 | .7 | 4.7 | .6 | 4.7 | 1.7 |
| 627 | 10/31/77 | 28 | 4.6 | .0 | 4.6 | .8 | 4.6 | .7 | 4.6 | .6 | 4.6 | 1.7 |
| 628 | 10/31/77 | 25 | 4.1 | .0 | 4.1 | .7 | 4.1 | .6 | 4.1 | .5 | 4.1 | 1.5 |
| 629 | 10/31/77 | 3 | 4.1 | .0 | 4.1 | .7 | 4.1 | .6 | 4.1 | .5 | 4.1 | 1.6 |
| 630 | 10/31/77 | 36 | 3.5 | .0 | 3.5 | .6 | 3.5 | .5 | 3.5 | .4 | 3.5 | 1.3 |
| 631 | 10/31/77 | 26 | 3.4 | .0 | 3.4 | .6 | 3.4 | .5 | 3.4 | .4 | 3.4 | 1.2 |
| 632 | 10/31/77 | 18 | 3.3 | .0 | 3.3 | .5 | 3.3 | .5 | 3.3 | .4 | 3.3 | 1.2 |
| 633 | 10/31/77 | 15 | 3.2 | .0 | 3.2 | .5 | 3.2 | .5 | 3.2 | .4 | 3.2 | 1.2 |
| 634 | 10/31/77 | 30 | 3.2 | .0 | 3.2 | .5 | 3.2 | .5 | 3.2 | .4 | 3.2 | 1.1 |
| 635 | 10/31/77 | 14 | 3.0 | .0 | 3.0 | .5 | 3.0 | .4 | 3.0 | .4 | 3.0 | 1.1 |
| 636 | 10/31/77 | 21 | 3.0 | .0 | 3.0 | .5 | 3.0 | .4 | 3.0 | .4 | 3.0 | 1.1 |
| 637 | 10/31/77 | 35 | 3.0 | .0 | 3.0 | .5 | 3.0 | .4 | 3.0 | .4 | 3.0 | 1.1 |
| 638 | 10/31/77 | 31 | 2.6 | .0 | 2.6 | .4 | 2.6 | .4 | 2.6 | .3 | 2.6 | .9 |
| 639 | 10/31/77 | 6 | 2.4 | .0 | 2.4 | .4 | 2.4 | .3 | 2.4 | .3 | 2.4 | .9 |
| 640 | 10/31/77 | 13 | 2.2 | .0 | 2.2 | .4 | 2.2 | .3 | 2.2 | .3 | 2.2 | .8 |
| 641 | 10/31/77 | 20 | 2.0 | .0 | 2.0 | .3 | 2.0 | .3 | 2.0 | .2 | 2.0 | .7 |
| 642 | 10/31/77 | 2 | 1.4 | .0 | 1.4 | .2 | 1.4 | .2 | 1.4 | .2 | 1.4 | .5 |
| 643 | 10/31/77 | 7 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 |
| 644 | 10/31/77 | 10 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 |
| 645 | 10/31/77 | 12 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 |
| 646 | 10/31/77 | 29 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 |
| 647 | 10/31/77 | 32 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 |
| 648 | 10/31/77 | 33 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 |
| 649 | 11/01/77 | 20 | 8.1 | .0 | 8.1 | 2.3 | 8.1 | .0 | 8.1 | 1.8 | 8.1 | 4.6 |
| 650 | 11/01/77 | 19 | 5.2 | .0 | 5.2 | 1.5 | 5.2 | .0 | 5.2 | 1.1 | 5.2 | 3.0 |
| 651 | 11/01/77 | 22 | 5.0 | .0 | 5.0 | 1.4 | 5.0 | .0 | 5.0 | 1.1 | 5.0 | 2.9 |
| 652 | 11/01/77 | 9 | 4.9 | .0 | 4.9 | 1.4 | 4.9 | .0 | 4.9 | 1.0 | 4.9 | 2.8 |
| 653 | 11/01/77 | 10 | 4.1 | .0 | 4.1 | 1.2 | 4.1 | .0 | 4.1 | .9 | 4.1 | 2.3 |
| 654 | 11/01/77 | 8 | 3.9 | .0 | 3.9 | 1.1 | 3.9 | .0 | 3.9 | .8 | 3.9 | 2.2 |
| 655 | 11/01/77 | 17 | 3.8 | .0 | 3.8 | 1.1 | 3.8 | .0 | 3.8 | .8 | 3.8 | 2.1 |
| 656 | 11/01/77 | 24 | 3.2 | .0 | 3.2 | .9 | 3.2 | .0 | 3.2 | .7 | 3.2 | 1.8 |
| 657 | 11/01/77 | 11 | 3.0 | .0 | 3.0 | .9 | 3.0 | .0 | 3.0 | .6 | 3.0 | 1.7 |
| 658 | 11/01/77 | 4 | 3.0 | .0 | 3.0 | .8 | 3.0 | .0 | 3.0 | .6 | 3.0 | 1.7 |
| 659 | 11/01/77 | 1 | 2.9 | .0 | 2.9 | .8 | 2.9 | .0 | 2.9 | .6 | 2.9 | 1.7 |
| 660 | 11/01/77 | 36 | 2.8 | .0 | 2.8 | .8 | 2.8 | .0 | 2.8 | .6 | 2.8 | 1.6 |

| RECNO | DATE | SIT | AUC → | R.C.J | AUC → | R.C.U | AUC → | R.C.S | AUC → | R.C.P | AUC → | R.C.F |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 661 | 11/01/77 | 3 | 2.7 | .0 | 2.7 | .8 | 2.7 | .0 | 2.7 | .8 | 2.7 | 1.6 |
| 662 | 11/01/77 | 34 | 2.7 | .0 | 2.7 | .8 | 2.7 | .0 | 2.7 | .8 | 2.7 | 1.6 |
| 663 | 11/01/77 | 28 | 2.6 | .0 | 2.6 | .7 | 2.6 | .0 | 2.6 | .6 | 2.6 | 1.6 |
| 664 | 11/01/77 | 25 | 2.4 | .0 | 2.4 | .7 | 2.4 | .0 | 2.4 | .5 | 2.4 | 1.4 |
| 665 | 11/01/77 | 5 | 2.2 | .0 | 2.2 | .6 | 2.2 | .0 | 2.2 | .5 | 2.2 | 1.3 |
| 666 | 11/01/77 | 16 | 2.0 | .0 | 2.0 | .6 | 2.0 | .0 | 2.0 | .4 | 2.0 | 1.2 |
| 667 | 11/01/77 | 27 | 2.0 | .0 | 2.0 | .6 | 2.0 | .0 | 2.0 | .4 | 2.0 | 1.2 |
| 668 | 11/01/77 | 20 | 2.0 | .0 | 2.0 | .6 | 2.0 | .0 | 2.0 | .4 | 2.0 | 1.1 |
| 669 | 11/01/77 | 35 | 1.5 | .0 | 1.5 | .4 | 1.5 | .0 | 1.5 | .3 | 1.5 | .9 |
| 670 | 11/01/77 | 14 | 1.4 | .0 | 1.4 | .4 | 1.4 | .0 | 1.4 | .3 | 1.4 | .8 |
| 671 | 11/01/77 | 15 | 1.4 | .0 | 1.4 | .4 | 1.4 | .0 | 1.4 | .3 | 1.4 | .8 |
| 672 | 11/01/77 | 21 | 1.4 | .0 | 1.4 | .4 | 1.4 | .0 | 1.4 | .3 | 1.4 | .8 |
| 673 | 11/01/77 | 30 | 1.4 | .0 | 1.4 | .4 | 1.4 | .0 | 1.4 | .3 | 1.4 | .8 |
| 674 | 11/01/77 | 26 | 1.3 | .0 | 1.3 | .4 | 1.3 | .0 | 1.3 | .3 | 1.3 | .7 |
| 675 | 11/01/77 | 2 | 1.2 | .0 | 1.2 | .3 | 1.2 | .0 | 1.2 | .3 | 1.2 | .7 |
| 676 | 11/01/77 | 31 | 1.2 | .0 | 1.2 | .3 | 1.2 | .0 | 1.2 | .2 | 1.2 | .7 |
| 677 | 11/01/77 | 12 | 1.0 | .0 | 1.0 | .3 | 1.0 | .0 | 1.0 | .2 | 1.0 | .6 |
| 678 | 11/01/77 | 13 | 1.0 | .0 | 1.0 | .3 | 1.0 | .0 | 1.0 | .2 | 1.0 | .5 |
| 679 | 11/01/77 | 18 | 1.0 | .0 | 1.0 | .3 | 1.0 | .0 | 1.0 | .2 | 1.0 | .5 |
| 680 | 11/01/77 | 6 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 |
| 681 | 11/01/77 | 7 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 |
| 682 | 11/01/77 | 23 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 |
| 683 | 11/01/77 | 32 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 |
| 684 | 11/01/77 | 33 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 |
| 685 | 11/02/77 | 10 | 8.1 | .0 | 8.1 | 1.7 | 8.1 | 1.4 | 8.1 | 1.1 | 8.1 | 3.6 |
| 686 | 11/02/77 | 19 | 8.0 | .0 | 8.0 | 1.6 | 8.0 | 1.4 | 8.0 | 1.1 | 8.0 | 3.5 |
| 687 | 11/02/77 | 22 | 7.9 | .0 | 7.9 | 1.6 | 7.9 | 1.3 | 7.9 | 1.1 | 7.9 | 3.5 |
| 688 | 11/02/77 | 9 | 7.5 | .0 | 7.5 | 1.5 | 7.5 | 1.3 | 7.5 | 1.0 | 7.5 | 3.3 |
| 689 | 11/02/77 | 3 | 6.9 | .0 | 6.9 | 1.4 | 6.9 | 1.2 | 6.9 | 1.0 | 6.9 | 3.1 |
| 690 | 11/02/77 | 1 | 6.3 | .0 | 6.3 | 1.3 | 6.3 | 1.1 | 6.3 | .9 | 6.3 | 2.8 |
| 691 | 11/02/77 | 8 | 5.9 | .0 | 5.9 | 1.2 | 5.9 | 1.0 | 5.9 | .8 | 5.9 | 2.6 |
| 692 | 11/02/77 | 4 | 5.8 | .0 | 5.8 | 1.2 | 5.8 | 1.0 | 5.8 | .8 | 5.8 | 2.6 |
| 693 | 11/02/77 | 24 | 5.3 | .0 | 5.3 | 1.1 | 5.3 | .9 | 5.3 | .7 | 5.3 | 2.4 |
| 694 | 11/02/77 | 16 | 5.1 | .0 | 5.1 | 1.0 | 5.1 | .9 | 5.1 | .7 | 5.1 | 2.3 |
| 695 | 11/02/77 | 23 | 5.0 | .0 | 5.0 | 1.0 | 5.0 | .8 | 5.0 | .7 | 5.0 | 2.2 |
| 696 | 11/02/77 | 34 | 5.0 | .0 | 5.0 | 1.0 | 5.0 | .8 | 5.0 | .7 | 5.0 | 2.2 |
| 697 | 11/02/77 | 27 | 4.7 | .0 | 4.7 | 1.0 | 4.7 | .8 | 4.7 | .6 | 4.7 | 2.1 |
| 698 | 11/02/77 | 11 | 4.5 | .0 | 4.5 | .9 | 4.5 | .8 | 4.5 | .6 | 4.5 | 2.0 |
| 699 | 11/02/77 | 5 | 4.2 | .0 | 4.2 | .9 | 4.2 | .7 | 4.2 | .6 | 4.2 | 1.9 |
| 700 | 11/02/77 | 25 | 4.1 | .0 | 4.1 | .8 | 4.1 | .7 | 4.1 | .6 | 4.1 | 1.8 |
| 701 | 11/02/77 | 29 | 3.7 | .0 | 3.7 | .8 | 3.7 | .6 | 3.7 | .5 | 3.7 | 1.7 |
| 702 | 11/02/77 | 17 | 3.3 | .0 | 3.3 | .7 | 3.3 | .6 | 3.3 | .5 | 3.3 | 1.5 |
| 703 | 11/02/77 | 30 | 3.0 | .0 | 3.0 | .6 | 3.0 | .5 | 3.0 | .4 | 3.0 | 1.4 |
| 704 | 11/02/77 | 15 | 2.9 | .0 | 2.9 | .6 | 2.9 | .5 | 2.9 | .4 | 2.9 | 1.3 |
| 705 | 11/02/77 | 26 | 2.6 | .0 | 2.6 | .5 | 2.6 | .4 | 2.6 | .4 | 2.6 | 1.2 |
| 706 | 11/02/77 | 36 | 2.5 | .0 | 2.5 | .5 | 2.5 | .4 | 2.5 | .4 | 2.5 | 1.1 |
| 707 | 11/02/77 | 14 | 2.5 | .0 | 2.5 | .5 | 2.5 | .4 | 2.5 | .3 | 2.5 | 1.1 |
| 708 | 11/02/77 | 21 | 2.5 | .0 | 2.5 | .5 | 2.5 | .4 | 2.5 | .3 | 2.5 | 1.1 |
| 709 | 11/02/77 | 35 | 2.4 | .0 | 2.4 | .5 | 2.4 | .4 | 2.4 | .3 | 2.4 | 1.1 |
| 710 | 11/02/77 | 20 | 2.2 | .0 | 2.2 | .5 | 2.2 | .4 | 2.2 | .3 | 2.2 | 1.0 |
| 711 | 11/02/77 | 6 | 2.0 | .0 | 2.0 | .4 | 2.0 | .3 | 2.0 | .3 | 2.0 | .9 |
| 712 | 11/02/77 | 12 | 1.9 | .0 | 1.9 | .4 | 1.9 | .3 | 1.9 | .3 | 1.9 | .8 |
| 713 | 11/02/77 | 13 | 1.9 | .0 | 1.9 | .4 | 1.9 | .3 | 1.9 | .3 | 1.9 | .8 |
| 714 | 11/02/77 | 2 | 1.8 | .0 | 1.8 | .4 | 1.8 | .3 | 1.8 | .3 | 1.8 | .8 |
| 715 | 11/02/77 | 18 | 1.8 | .0 | 1.8 | .4 | 1.8 | .3 | 1.8 | .3 | 1.8 | .8 |
| 716 | 11/02/77 | 31 | 1.8 | .0 | 1.8 | .4 | 1.8 | .3 | 1.8 | .2 | 1.8 | .8 |
| 717 | 11/02/77 | 7 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 |
| 718 | 11/02/77 | 28 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 |
| 719 | 11/02/77 | 32 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 |
| 720 | 11/02/77 | 33 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 |

## FOOTNOTE PAGE FOR TABLES C-3 and C-4

1. Average carbon monoxide (in ppm) for the 10:00 a.m. to 6:00 p.m. period at each EPA study site.
2. Ratio of study site to James Street (James E/O 4th, north side) permanent site.
3. Same as footnote 1.
4. Ratio of study site to University (2nd S/O University, west side) permanent site.
5. Same as footnote 1.
6. Ratio of study site to Singer (Pike E/O 4th, south side) permanent site.
7. Same as footnote 1.
8. Ratio of study site to Pike Street (4th S/O Pike, east side) permanent site.
9. Same as footnote 1.
10. Ratio of study site to Fire Station (2nd S/O Main, west side) permanent site.

NOTE: Any appearance of zero as a data entry indicates the absence of valid data and should not be confused with a reported value of zero. All viable samples during the survey had detectable CO. Values of zero were omitted from statistical calculations.

## TABLE C-5
## CONCENTRATIONS OF CARBON MONOXIDE AT THE PERMANENT SITES 1/
### (PPM OF CARBON MONOXIDE )

| RECNO | DATE | SIT | HR11 | HR12 | HR13 | HR14 | HR15 | HR16 | HR17 | HR18 | AMC | PMC | AUC |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 10/06/77 | JAM | 5.0 | 6.0 | 9.0 | 7.0 | 6.0 | 7.0 | 5.0 | 3.0 | 6.8 | 5.3 | 6.0 |
| 2 | 10/07/77 | JAM | 6.0 | 6.0 | 7.0 | 7.0 | 5.0 | 7.0 | 8.0 | 5.0 | 6.5 | 6.3 | 6.4 |
| 3 | 10/10/77 | JAM | 9.0 | 8.0 | 5.0 | 8.0 | 7.0 | 13.0 | 15.0 | 8.0 | 7.5 | 10.8 | 9.1 |
| 4 | 10/11/77 | JAM | 9.0 | 7.0 | 9.0 | 10.0 | 9.0 | 13.0 | 14.0 | 9.0 | 8.8 | 11.3 | 10.0 |
| 5 | 10/12/77 | JAM | 4.0 | 4.0 | 4.0 | 5.0 | 4.0 | 5.0 | 4.0 | 3.0 | 4.3 | 4.0 | 4.1 |
| 6 | 10/13/77 | JAM | 7.0 | 7.0 | 10.0 | 8.0 | 10.0 | 12.0 | 10.0 | 7.0 | 8.0 | 9.8 | 8.9 |
| 7 | 10/14/77 | JAM | 9.0 | 10.0 | 10.0 | 11.0 | 12.0 | 15.0 | 13.0 | 9.0 | 10.0 | 12.3 | 11.1 |
| 8 | 10/17/77 | JAM | .0 | 8.0 | 8.0 | 4.0 | 5.0 | 8.0 | 6.0 | 4.0 | .0 | 5.8 | .0 |
| 9 | 10/18/77 | JAM | 5.0 | 5.0 | 6.0 | 6.0 | 7.0 | 12.0 | 11.0 | 4.0 | 5.5 | 8.5 | 7.0 |
| 10 | 10/19/77 | JAM | 10.0 | 9.0 | 10.0 | 10.0 | 11.0 | 13.0 | 11.0 | 8.0 | 9.8 | 10.8 | 10.3 |
| 11 | 10/20/77 | JAM | 9.0 | 7.0 | 8.0 | 8.0 | 8.0 | 8.0 | 6.0 | 4.0 | 8.0 | 6.5 | 7.3 |
| 12 | 10/21/77 | JAM | 4.0 | 4.0 | 4.0 | 4.0 | 4.0 | 6.0 | 6.0 | 6.0 | 4.0 | 5.5 | 4.8 |
| 13 | 10/24/77 | JAM | 6.0 | 3.0 | 3.0 | 3.0 | 3.0 | 4.0 | 3.0 | 2.0 | 3.7 | 3.0 | 3.4 |
| 14 | 10/25/77 | JAM | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 |
| 15 | 10/26/77 | JAM | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 |
| 16 | 10/27/77 | JAM | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 |
| 17 | 10/28/77 | JAM | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 |
| 18 | 10/31/77 | JAM | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 |
| 19 | 11/01/77 | JAM | 2.0 | 2.0 | 2.0 | .0 | 2.0 | 2.0 | 3.0 | 3.0 | .0 | 2.5 | .0 |
| 20 | 11/02/77 | JAM | .0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 4.0 | 4.0 | .0 | 3.5 | .0 |
| 21 | 10/06/77 | UNI | 9.0 | 10.0 | 7.0 | 12.0 | 14.0 | 15.0 | 14.0 | 4.0 | 9.5 | 11.8 | 10.6 |
| 22 | 10/07/77 | UNI | 5.0 | 5.0 | 5.0 | 3.0 | 4.0 | 10.0 | 11.0 | 4.0 | 4.5 | 7.3 | 5.9 |
| 23 | 10/10/77 | UNI | 10.0 | 8.0 | 7.0 | 5.0 | 6.0 | 9.0 | 6.0 | 5.0 | 7.5 | 6.5 | 7.0 |
| 24 | 10/11/77 | UNI | 5.0 | 5.0 | 7.0 | 7.0 | 7.0 | 11.0 | 16.0 | 4.0 | 6.0 | 9.5 | 7.8 |
| 25 | 10/12/77 | UNI | 8.0 | 7.0 | .0 | 7.0 | 7.0 | 12.0 | 13.0 | 3.0 | .0 | 8.8 | .0 |
| 26 | 10/13/77 | UNI | 4.0 | 3.0 | 3.0 | 4.0 | 4.0 | 4.0 | 5.0 | 3.0 | 3.5 | 4.0 | 3.7 |
| 27 | 10/14/77 | UNI | 5.0 | 4.0 | 5.0 | 4.0 | 6.0 | 13.0 | 7.0 | 6.0 | 4.5 | 8.0 | 6.3 |
| 28 | 10/17/77 | UNI | 4.0 | 4.0 | 5.0 | 5.0 | 5.0 | 6.0 | 6.0 | 4.0 | 4.5 | 5.3 | 4.9 |
| 29 | 10/18/77 | UNI | 8.0 | 6.0 | 4.0 | 6.0 | 10.0 | 8.0 | 11.0 | 5.0 | 6.0 | 8.5 | 7.3 |
| 30 | 10/19/77 | UNI | 4.0 | 4.0 | 5.0 | 5.0 | 4.0 | 5.0 | 5.0 | 3.0 | 4.5 | 4.3 | 4.4 |
| 31 | 10/20/77 | UNI | 6.0 | 5.0 | 10.0 | 12.0 | 9.0 | 10.0 | 13.0 | 6.0 | 8.3 | 9.5 | 8.9 |
| 32 | 10/21/77 | UNI | 8.0 | 6.0 | 7.0 | 9.0 | 9.0 | 20.0 | 20.0 | 8.0 | 7.5 | 14.3 | 10.9 |
| 33 | 10/24/77 | UNI | 10.0 | 5.0 | 6.0 | 5.0 | 4.0 | 6.0 | 4.0 | 2.0 | 6.3 | 4.0 | 5.1 |
| 34 | 10/25/77 | UNI | 4.0 | 4.0 | .0 | 6.0 | 8.0 | 11.0 | 13.0 | 4.0 | .0 | 9.0 | .0 |
| 35 | 10/26/77 | UNI | 5.0 | 5.0 | 6.0 | 6.0 | 6.0 | 11.0 | 18.0 | 6.0 | 5.5 | 10.3 | 7.9 |
| 36 | 10/27/77 | UNI | .0 | 11.0 | 8.0 | 10.0 | 11.0 | 11.0 | 12.0 | 5.0 | .0 | 9.8 | .0 |
| 37 | 10/28/77 | UNI | 14.0 | 10.0 | 10.0 | 10.0 | 13.0 | 21.0 | 20.0 | 4.0 | 11.0 | 14.5 | 12.8 |
| 38 | 10/31/77 | UNI | 4.0 | 5.0 | 5.0 | 5.0 | 6.0 | 6.0 | 8.0 | 10.0 | 4.8 | 7.5 | 6.1 |
| 39 | 11/01/77 | UNI | 3.0 | 3.0 | 2.0 | 3.0 | 3.0 | 3.0 | 5.0 | 6.0 | 2.7 | 4.3 | 3.5 |
| 40 | 11/02/77 | UNI | 4.0 | 4.0 | 4.0 | 4.0 | 5.0 | 5.0 | 6.0 | 7.0 | 4.0 | 5.8 | 4.9 |
| 41 | 10/06/77 | SIN | 11.0 | 10.0 | 6.0 | 8.0 | 11.0 | 10.0 | 11.0 | 8.0 | 8.8 | 10.0 | 9.4 |
| 42 | 10/07/77 | SIN | 9.0 | 6.0 | 7.0 | 5.0 | 4.0 | 6.0 | 6.0 | 5.0 | 6.8 | 5.3 | 6.0 |
| 43 | 10/10/77 | SIN | 9.0 | 7.0 | 6.0 | 5.0 | 6.0 | 7.0 | 7.0 | 6.0 | 6.8 | 6.5 | 6.6 |
| 44 | 10/11/77 | SIN | 6.0 | 7.0 | 6.0 | 7.0 | 9.0 | 8.0 | 10.0 | 6.0 | 6.5 | 8.3 | 7.4 |
| 45 | 10/12/77 | SIN | 9.0 | 7.0 | .0 | 7.0 | 9.0 | 8.0 | 12.0 | 7.0 | .0 | 9.0 | .0 |
| 46 | 10/13/77 | SIN | 6.0 | 4.0 | 5.0 | 8.0 | 6.0 | 6.0 | 8.0 | 5.0 | 5.8 | 6.3 | 6.0 |
| 47 | 10/14/77 | SIN | 5.0 | 5.0 | 6.0 | 5.0 | 6.0 | 7.0 | 8.0 | 6.0 | 5.3 | 6.8 | 5.9 |
| 48 | 10/17/77 | SIN | 5.0 | 6.0 | 5.0 | .0 | 4.0 | 6.0 | 6.0 | 4.0 | .0 | 5.0 | .0 |
| 49 | 10/18/77 | SIN | 6.0 | 6.0 | 4.0 | 4.0 | 6.0 | 6.0 | 7.0 | 6.0 | 5.0 | 6.3 | 5.6 |
| 50 | 10/19/77 | SIN | 6.0 | 6.0 | 7.0 | 7.0 | 5.0 | 7.0 | 6.0 | 5.0 | 6.5 | 5.8 | 6.1 |
| 51 | 10/20/77 | SIN | .0 | .0 | 5.0 | 8.0 | 6.0 | 8.0 | 10.0 | 7.0 | .0 | 7.8 | .0 |
| 52 | 10/21/77 | SIN | 7.0 | 7.0 | 6.0 | 9.0 | 8.0 | 13.0 | 15.0 | 13.0 | 7.3 | 12.3 | 9.8 |
| 53 | 10/24/77 | SIN | 10.0 | 7.0 | 7.0 | 5.0 | 5.0 | 6.0 | 6.0 | 5.0 | 7.3 | 5.5 | 6.4 |
| 54 | 10/25/77 | SIN | .0 | 6.0 | 6.0 | 8.0 | 8.0 | 11.0 | 12.0 | 7.0 | .0 | 9.5 | .0 |
| 55 | 10/26/77 | SIN | 8.0 | 6.0 | 6.0 | 6.0 | 7.0 | 7.0 | 9.0 | 7.0 | 6.5 | 7.5 | 7.0 |
| 56 | 10/27/77 | SIN | 11.0 | 10.0 | 7.0 | 6.0 | 7.0 | 8.0 | 10.0 | 10.0 | 8.5 | 8.8 | 8.6 |
| 57 | 10/28/77 | SIN | 10.0 | 10.0 | 11.0 | 12.0 | 11.0 | 13.0 | 18.0 | 13.0 | 10.8 | 13.8 | 12.3 |
| 58 | 10/31/77 | SIN | 5.0 | 6.0 | 6.0 | 5.0 | 6.0 | 7.0 | 8.0 | 12.0 | 5.5 | 8.3 | 6.9 |
| 59 | 11/01/77 | SIN | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 | .0 |
| 60 | 11/02/77 | SIN | 4.0 | 5.0 | 5.0 | 5.0 | 6.0 | 6.0 | 7.0 | 9.0 | 4.8 | 7.0 | 5.9 |

1. SEE FOOTNOTE PAGE FOR DETAILS

```
RECNO  DATE      SIT  HR11  HR12  HR13  HR14  HR15  HR16  HR17  HR18   AMC   PMC   AVC

   61  10/06/77  PIK  14.0   9.0   6.0   7.0  10.0  11.0  14.0   6.0   9.0  10.3   9.6
   62  10/07/77  PIK   5.0   4.0   4.0   4.0   4.0   6.0   7.0   4.0   4.3   5.3   4.8
   63  10/10/77  PIK    .0   6.0   4.0   4.0   5.0  17.0  17.0  10.0    .0  12.3    .0
   64  10/11/77  PIK  12.0  13.0  13.0  15.0  11.0  12.0  20.0  10.0  13.3  13.3  13.3
   65  10/12/77  PIK   9.0   8.0   8.0   9.0   7.0   9.0  13.0   5.0   8.5   8.5   8.5
   66  10/13/77  PIK   7.0   7.0   8.0   9.0  10.0  11.0  17.0  10.0   7.8  12.0   9.9
   67  10/14/77  PIK  12.0  13.0  14.0  15.0  14.0  20.0  24.0  14.0  13.5  18.0  15.8
   68  10/17/77  PIK  11.0  10.0  10.0    .0   3.0   4.0   5.0   6.0    .0   4.5    .0
   69  10/18/77  PIK   5.0   5.0   5.0   4.0   7.0   5.0  10.0   7.0   4.8   7.3   6.0
   70  10/19/77  PIK  12.0  12.0  12.0  14.0  10.0  12.0  12.0   8.0  12.5  10.5  11.5
   71  10/20/77  PIK  11.0  12.0   6.0   7.0   6.0  10.0  12.0   7.0   9.0   8.8   8.9
   72  10/21/77  PIK   9.0   9.0  10.0  10.0  11.0  14.0  18.0  15.0   9.5  14.5  12.0
   73  10/24/77  PIK   9.0   9.0   8.0   8.0   6.0   8.0  10.0   6.0   8.5   7.5   8.0
   74  10/25/77  PIK    .0    .0   8.0   6.0   8.0  12.0  18.0   6.0    .0  11.0    .0
   75  10/26/77  PIK   8.0   8.0   8.0   8.0   9.0  12.0  14.0   8.0   8.0  10.8   9.4
   76  10/27/77  PIK  10.0  11.0   7.0   3.0   6.0   7.0  10.0   7.0   7.8   7.5   7.6
   77  10/28/77  PIK  10.0  11.0  15.0  14.0  10.0  16.0  24.0   9.0  12.5  14.8  13.6
   78  10/31/77  PIK   7.0   8.0   7.0   7.0   8.0  10.0   8.0  11.0   7.3   9.3   8.3
   79  11/01/77  PIK   4.0   5.0   4.0   4.0   5.0   4.0   5.0   6.0   4.3   5.0   4.6
   80  11/02/77  PIK   5.0   6.0   6.0   6.0   7.0   7.0  10.0  11.0   5.8   8.8   7.3
   81  10/06/77  FIR   5.0   8.0   6.0   5.0   9.0   8.0   4.0   3.0   6.0   6.0   6.0
   82  10/07/77  FIR   3.0   3.0   4.0   2.0   3.0   4.0   5.0   4.0   3.0   4.0   3.5
   83  10/10/77  FIR   6.0   4.0   3.0   5.0   3.0   7.0   6.0   5.0   4.5   5.3   4.9
   84  10/11/77  FIR   3.0   2.0   2.0   2.0   2.0   4.0   5.0   4.0   2.2   3.7   3.0
   85  10/12/77  FIR    .0    .0    .0    .0    .0    .0    .0    .0    .0    .0    .0
   86  10/13/77  FIR    .0    .0    .0    .0    .0    .0    .0    .0    .0    .0    .0
   87  10/14/77  FIR    .0    .0    .0    .0    .0    .0    .0    .0    .0    .0    .0
   88  10/17/77  FIR    .0    .0    .0    .0    .0    .0    .0    .0    .0    .0    .0
   89  10/18/77  FIR    .0    .0    .0    .0    .0    .0    .0    .0    .0    .0    .0
   90  10/19/77  FIR    .0    .0    .0    .0    .0    .0    .0    .0    .0    .0    .0
   91  10/20/77  FIR   4.0   6.0   6.0   7.0   6.0   7.0   6.0   5.0   5.8   6.0   5.9
   92  10/21/77  FIR    .0   2.0   1.0   2.0   3.0   5.0   5.0   6.0    .0   4.8    .0
   93  10/24/77  FIR   4.0   3.0   3.0   2.0   2.0   3.0   2.0   2.0   3.0   2.2   2.6
   94  10/25/77  FIR   2.0   2.0   2.0   3.0   3.0   4.0   3.0   2.0   2.2   3.0   2.6
   95  10/26/77  FIR   3.0   4.0   3.0   3.0   3.0   5.0   4.0   4.0   3.2   4.0   3.6
   96  10/27/77  FIR    .0   4.0   3.0   4.0   4.0   4.0   4.0   3.0    .0   3.7    .0
   97  10/28/77  FIR   8.0   5.0   4.0   4.0   7.0  10.0   9.0   5.0   5.3   7.8   6.5
   98  10/31/77  FIR   2.0   2.0   2.0   2.0   3.0   3.0   4.0   4.0   2.0   3.5   2.7
   99  11/01/77  FIR   2.0   1.0   1.0   1.0   2.0   2.0   3.0   2.0   1.2   2.2   1.7
  100  11/02/77  FIR   2.0   2.0   3.0   2.0   2.0   2.0   3.0   2.0   2.2   2.2   2.2

       40 RECORD(S) LISTED


**
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## FOOTNOTE PAGE FOR TABLE C-5

1. Five permanent sites were considered:

   A. "JAM" - denotes the site at James E/O 4th on the north side.

   B. "UNI" - denotes the site at 2nd S/O University on the west side.

   C. "SIN" - denotes the site at Pike E/O 4th on the south side.

   D. "PIK" - denotes the site at 4th S/O Pike on the east side.

   E. "FIR" - denotes the site at 2nd S/O Main on the west side.

   Data were from hourly averages of continuous NDIR measurements of CO reported by the Washington State Department of Ecology. Four-hour and eight-hour averages were not calculated here if data were missing for any hour.

NOTE: Any appearance of zero as a data entry indicates the absence of valid data and should not be confused with a reported value of zero. All viable samples during the survey had detectable CO. Values of zero were omitted from statistical calculations.

# APPENDIX D

## Seattle CO Survey/Indoor Tape-Indoor Bag-Corresponding Outdoor Site Comparisons

| TABLE | TITLE | PAGE |
|---|---|---|
| D-1 | Indoor Site SIN1: Cobb Medical Building | 2 |
| D-2 | Indoor Site SIN2: Singer's Retail Store | 3 |
| D-3 | Indoor Site SIN3: Seattle First National Bank | 4 |
| D-4 | Indoor Site SIN4: National Park Service | 5 |
| D-5 | Indoor Site SIN5: Central Hotel | 5 |

Table D-1. Seattle CO Survey/Indoor Tape - Indoor Bag - Corresponding Outdoor Site Comparisons
(Results in ppm of Carbon Monoxide)

Indoor Site SIN1: Cobb Medical Building (first floor) on Fourth Avenue south of University

| 1977 | AM | | | PM | | | Eight-Hour Average | | |
|---|---|---|---|---|---|---|---|---|---|
| Date | Site 10 | Indoor Bag | Indoor Tape | Site 10 | Indoor Bag | Indoor Tape | Site 10 | Indoor Bag | Indoor Tape |
| 10/06 | 10.0 | -- | -- | 12.8 | -- | 8.2 | 11.4 | -- | -- |
| 10/07 | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 10/10 | 9.0 | -- | 8.3 | 8.8 | -- | 6.8 | 8.6 | -- | 7.6 |
| 10/11 | 5.6 | -- | -- | 7.0 | 7.0 | -- | -- | -- | -- |
| 10/12 | 12.5 | 9.5 | 7.4 | 12.2 | 6.5 | 5.1 | 12.3 | 8.0 | 6.2 |
| 10/13 | 4.2 | 5.3 | 4.9 | 4.8 | 6.0 | 5.9 | 4.5 | 5.6 | 5.4 |
| 10/14 | 5.6 | 5.1 | 5.4 | 5.0 | 5.9 | 5.5 | 5.3 | 5.5 | 5.4 |
| 10/17 | 3.8 | -- | -- | 7.3 | 7.0 | 4.4 | 5.6 | -- | 3.8 |
| 10/18 | 7.5 | -- | 6.7 | 11.2 | -- | 6.2 | 9.4 | -- | 7.6 |
| 10/19 | 4.9 | -- | 5.9 | 6.1 | 6.0 | 6.3 | 5.5 | -- | 6.1 |
| 10/20 | 5.5 | 6.5 | 6.0 | 11.8 | 6.0 | 6.5 | 8.1 | 6.2 | 6.2 |
| 10/21 | 12.1 | 8.0 | 6.7 | 17.8 | 9.0 | 11.6 | 15.0 | 8.5 | 9.1 |
| 10/24 | 9.9 | 6.1 | 6.6 | 5.7 | 2.9 | 3.4 | 7.8 | 4.5 | 5.0 |
| 10/25 | 5.8 | 3.9 | 4.2 | 2.8 | 4.5 | 6.4 | 4.3 | 4.2 | 5.3 |
| 10/26 | 8.0 | 5.6 | 6.1 | 9.1 | 4.2 | 5.2 | 8.6 | 4.9 | 5.6 |
| 10/27 | 13.0 | 10.0 | 9.3 | 8.9 | 6.0 | -- | 11.0 | 8.0 | -- |
| 10/28 | 14.4 | 9.0 | 9.0 | 15.6 | 11.2 | 10.6 | 15.0 | 10.1 | 9.8 |
| 10/31 | -- | 4.8 | 6.0 | 9.6 | 4.9 | 7.8 | 9.6 | 4.8 | 6.9 |
| 11/01 | 3.9 | 3.0 | 3.0 | 4.3 | 2.7 | 3.9 | 4.1 | 2.8 | 3.4 |
| 11/02 | 5.1 | 3.2 | 5.2 | 11.0 | 5.0 | 7.6 | 8.1 | 4.1 | 6.4 |

NOTES: AM - 10 AM to 2 PM period
PM - 2 PM to 6 PM period
8-Hr. Avg. - Average of AM and PM data

Table D-2. Seattle CO Survey/Indoor Tape - Indoor Bag - Corresponding Outdoor Site Comparisons
(Results in ppm of Carbon Monoxide)

Indoor Site SIN2: Singer's Retail Store (first floor) on Pike east of Fourth Avenue

| 1977 | AM | | | PM | | | Eight-Hour Average | |
|---|---|---|---|---|---|---|---|---|
| Date | Site 24 | Indoor Bag | Indoor Tape | Site 24 | Indoor Bag | Indoor Tape | Site 24 | Indoor Bag |
| 10/06 | -- | -- | -- | 8.0 | -- | -- | 8.0 | -- |
| 10/07 | 6.2 | -- | -- | 6.1 | -- | -- | 6.2 | -- |
| 10/10 | 6.0 | -- | 7.2 | 5.1 | -- | 6.9 | 5.6 | -- |
| 10/11 | 5.0 | 5.0 | 5.0 | 5.1 | 7.0 | -- | 5.1 | 6.0 |
| 10/12 | 8.4 | 8.0 | -- | 7.2 | 7.0 | -- | 7.8 | 7.5 |
| 10/13 | 2.9 | 4.5 | 4.0 | 3.6 | 4.5 | 4.2 | 3.8 | 4.5 |
| 10/14 | 3.1 | 3.9 | 4.0 | 4.0 | 3.9 | 4.8 | 3.6 | 3.9 |
| 10/17 | 3.9 | 4.8 | 4.2 | 7.2 | -- | -- | 5.6 | -- |
| 10/18 | -- | 5.1 | 3.7 | 6.2 | 5.9 | 4.2 | -- | 5.5 |
| 10/19 | 4.4 | -- | 2.6 | 4.9 | -- | 3.1 | 4.7 | -- |
| 10/20 | -- | 5.5 | -- | 5.4 | 5.8 | -- | 5.4 | 5.6 |
| 10/21 | 8.1 | 10.1 | -- | 11.0 | 7.5 | -- | 9.6 | 8.8 |
| 10/24 | 5.5 | 6.2 | -- | 4.6 | 4.5 | -- | 5.1 | 5.4 |
| 10/25 | 4.3 | 4.0 | -- | 8.2 | -- | -- | 6.3 | -- |
| 10/26 | 5.5 | -- | -- | 5.9 | 5.2 | -- | 5.7 | -- |
| 10/27 | 10.7 | 8.6 | -- | 6.4 | 5.9 | -- | 8.8 | 7.2 |
| 10/28 | 9.3 | -- | -- | 12.0 | -- | -- | 10.7 | -- |
| 10/31 | 4.7 | 6.0 | -- | 7.2 | 5.2 | -- | 6.0 | 5.6 |
| 11/01 | 3.0 | 2.6 | -- | 3.3 | -- | -- | 3.2 | -- |
| 11/02 | 4.0 | 3.0 | -- | 6.6 | -- | -- | 5.3 | -- |

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NOTES: AM - 10 AM to 2 PM period
PM - 2 PM to 6 PM period
8-Hr. Avg. - Average of AM and PM data

Table D-3. Seattle CO Survey/Indoor Tape - Indoor Bag - Corresponding Outdoor Site Comparisons
(Results in ppm of Carbon Monoxide)

Indoor Site SIN3: Seattle First National Bank (second floor) at Pike east of Fourth Avenue

| 1977 | AM | | PM | | Eight-Hour Average | |
|---|---|---|---|---|---|---|
| Date | Site 25 | Indoor Tape | Site 25 | Indoor Tape | Site 25 | Indoor Tape |
| 10/20 | 6.1 | 3.0 | 6.2 | -- | 6.2 | -- |
| 10/21 | 5.8 | 3.8 | 8.0 | 3.3 | 6.9 | 3.2 |
| 10/24 | 5.0 | -- | 3.0 | -- | 4.0 | -- |
| 10/25 | 3.3 | 2.8 | 5.2 | 3.5 | 4.3 | 3.2 |
| 10/26 | 4.2 | 2.4 | 5.2 | 2.0 | 4.7 | 2.3 |

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NOTES:

AM - 10 AM to 2 PM period
PM - 2 PM to 6 PM period
8-Hr. Avg. - Average of AM and PM data

Table D-4. Seattle CO Survey/Indoor Tape - Indoor Bag - Corresponding Outdoor Site Comparisons
(Results in ppm of Carbon Monoxide)

Indoor Site SIN4: National Park Service (fifth floor of Fourth and Pike Building) at southeast corner of Fourth Avenue and Pike Street

| 1977 | AM | | PM | | Eight-Hour Average | |
|---|---|---|---|---|---|---|
| Date | Site 9 | Indoor Tape | Site 9 | Indoor Tape | Site 9 | Indoor Tape |
| 10/27 | 10.3 | -- | 6.1 | 4.6 | 8.2 | -- |
| 10/28 | 10.8 | 7.2 | 17.1 | 8.9 | 14.0 | 8.0 |
| 10/31 | 9.0 | -- | 8.6 | -- | 8.8 | -- |
| 11/01 | 4.5 | 3.2 | 5.2 | -- | 4.9 | -- |
| 11/02 | 6.2 | 4.0 | 8.8 | 4.4 | 7.5 | 4.2 |

Indoor Site SIN5: Central Hotel (third floor) on Fifth Avenue south of Pine Street

| 1977 | AM | | PM | | Eight-Hour Average | |
|---|---|---|---|---|---|---|
| Date | Site 15 | Indoor Bag | Site 15 | Indoor Bag | Site 15 | Indoor Bag |
| 10/27 | 11.0 | -- | 4.2 | 3.3 | 7.6 | -- |
| 10/28 | 9.5 | 7.7 | 11.1 | 5.0 | 10.3 | 6.1 |
| 10/31 | 2.9 | -- | 3.5 | -- | 3.2 | -- |
| 11/01 | 1.5 | 3.1 | 1.3 | 1.2 | 1.4 | 2.2 |
| 11/02 | 1.9 | 3.6 | 3.9 | 2.7 | 2.9 | 3.2 |

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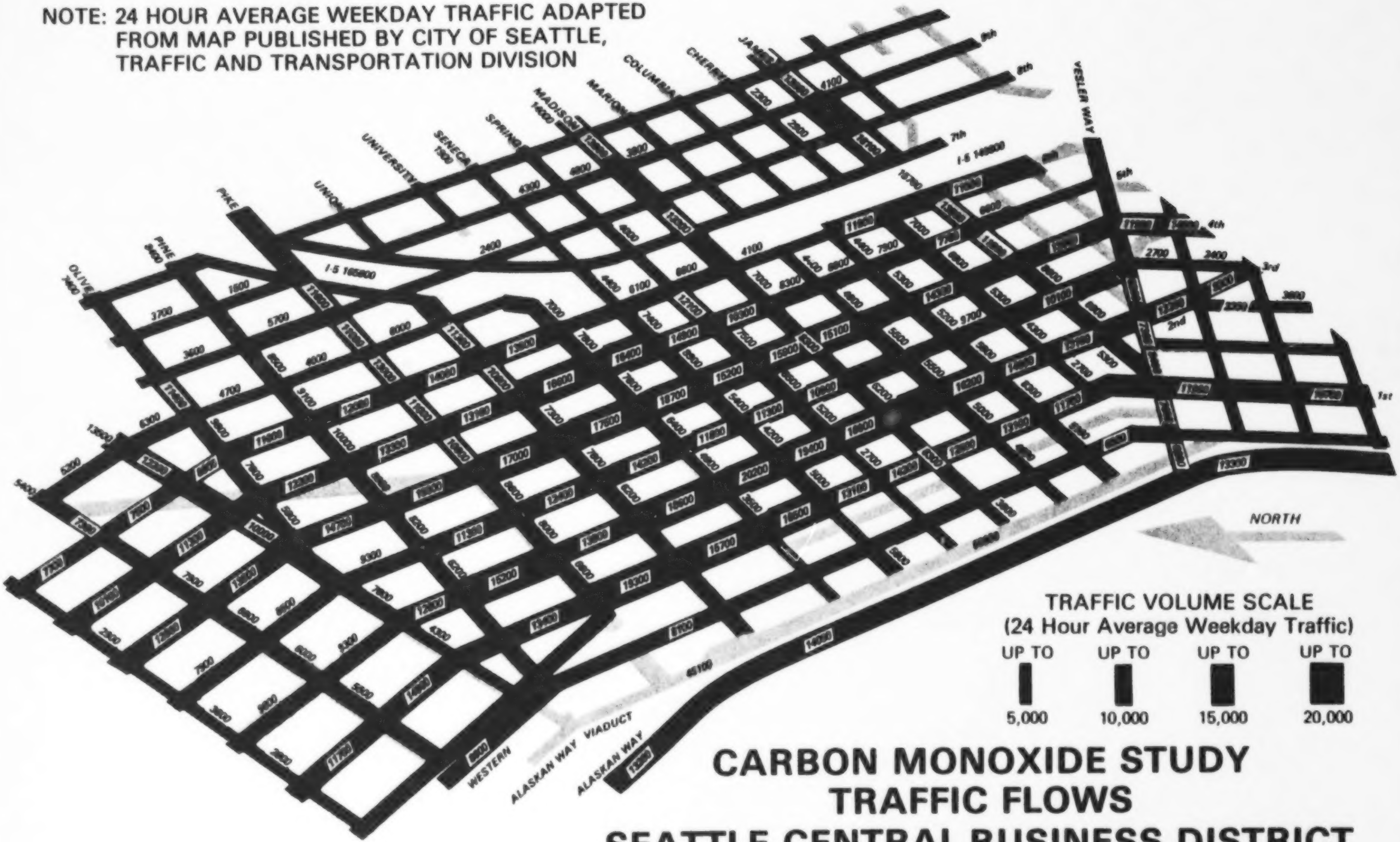
NOTES:
AM - 10 AM to 2 PM period
PM - 2 PM to 6 PM period
8-Hr. Avg. - Average of AM and PM data

7

NOTE: 24 HOUR AVERAGE WEEKDAY TRAFFIC ADAPTED
FROM MAP PUBLISHED BY CITY OF SEATTLE,
TRAFFIC AND TRANSPORTATION DIVISION


OLIVE 7400
PINE 9400
PIKE
UNION
UNIVERSITY
SENECA 1500
SPRING
MADISON 14000
MARION
COLUMBIA
CHERRY
JAMES
9th
8th
7th
I-5 140800
I-5 165800
6th
5th
4th
3rd
2nd
1st
VESLER WAY
WESTERN
ALASKAN WAY VIADUCT
ALASKAN WAY
NORTH
TRAFFIC VOLUME SCALE
(24 Hour Average Weekday Traffic)
UP TO
5,000
UP TO
10,000
UP TO
15,000
UP TO
20,000

# CARBON MONOXIDE STUDY
# TRAFFIC FLOWS
# SEATTLE CENTRAL BUSINESS DISTRICT
# 1975